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Virtue Economics

PhD

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Declarations

Authorship: I confirm that this is my own work and the use of material from other sources has been properly and fully acknowledged.

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Abstract

This thesis argues that human nature determines the virtues and that these include three types of virtue specific to economic activity: contractual, behavioural and entrepreneurial. The concepts of human nature and natural normativity are defended against their critics. It is explained how the virtues flow from human nature and that it is legitimate to derive 'ought' from 'is'. Human beings have the natural power to make contracts, to demarcate property and to collaborate in combinatorial specialisation. The economic welfare created by contract and specialisation is an important part of both individual and collective human flourishing.

Given these facts about human nature three different kinds of virtues emerge. The first are related to contract. In economic activity people should be honest and reliable and practise forbearance. They should also be trustworthy and trusting. Further, research in behavioural economics has shown that human beings tend to make systematic errors in their economic decision-making. People value sunk costs irrationally and are subject to framing. Such flaws provoke corrective virtues which, if practised, would mitigate both our being subject to these defects in ourselves and our exploiting them in others. Finally, anyone who is economically active either as businessman or as an individual in his everyday affairs needs active entrepreneurial virtues. These include determination, the ability to spot opportunities, the ability to negotiate and to make deals, economic prudence and the ability to detect and avoid irrational exuberance.

This thesis is unashamedly a moral tract, similar in kind, but different in subject to Miranda Fricker's *Epistemic Injustice.* (Fricker, 2007) Human Beings are naturally collaborative as expressed in the division of labour and this provides the ground for prescribing the economic virtues described.

Introduction

The modern revival of virtue ethics began in 1958 with the publication in *Philosophy* of Elizabeth Anscombe's famous paper 'Modern Moral Philosophy' (Anscombe,1981 A / 1958). Anscombe pointed out that since the work of Henry Sidgwick in the second half of the 19th century ethics had become dominated by consequentialist theories. In other words, ethics had become a matter of determining what we ought to do by calculating the consequences of our actions. But these doctrines failed (amongst other things) to acknowledge that there are some actions which are always ruled out whatever the consequences. Anscombe proposed a return to virtue ethics in the tradition of Aristotle and Aquinas. In the 60 years since, the revival of virtue ethics has led to a substantial literature and to the application of virtue ethics in a variety of different activities and disciplines. For example Miranda Fricker has explored testimonial injustice (Fricker, 2007) and virtue ethics has been applied to environmental ethics (Hursthouse, 2007 and Zwolinski &Schmidtz, 2013) and politics. (Nussbaum, 2006) We assume a virtue ethics framework that meets the challenges posed by its critics outside the context of this thesis.

The assumption of the truth of virtue ethics itself has the corollary that philosophical empiricism is mistaken. Modern empiricism ultimately derives from David Hume. All knowledge of fact is supposed to derive from experience, which is then interpreted and about which value judgements can be made by an agent. The difficulty is that since all non-factual knowledge consists of truisms ('All bachelors are unmarried') this means that the statement of the disjunction 'knowledge is either a statement of fact or a truism' is neither. Still the consequence for empiricists is that ethical statements ('It is wrong to steal') are either expressions of emotion or prescriptions which cannot be true or false. The empiricist account of ethics is thus 'non-cognitivist'.

This thesis applies the principles of virtue ethics to economic relations as they apply both to the individual managing his own affairs and to firms in the marketplace. Our approach, following Philippa Foot, is to ground the virtues in human nature as a means of discovering how economic activity contributes to human flourishing. (Foot, 2001) As human nature determines human flourishing so in turn it establishes virtues (and vices), and economic collaboration, in the form of exchange and contract, has its own characteristic virtues.

These special virtues come in three forms. They are *positive* inasmuch as they make exchange and cooperation easier, but they are also *corrective* of the defects revealed by behavioural economics. Further entrepreneurship which is a source of economic growth is a virtue in its own right. Aristotle, the originator of virtue ethics, described the 'Magnificent Man' or 'megalo-perous' who knows how to use his wealth rightly. (Aristotle, 1966, *NE*, p85ff 1122a23), but he had no conception (as was general in the ancient world) of the creation of wealth by entrepreneurship. The 'Philanthropist', the modern equivalent of the 'Magnificent Man', needs the counterpoint of the 'Entrepreneur' who creates wealth and, in the process, disrupts the economy with new products, new ways of doing old things, new businesses and sometimes new industries.

The need for some new corrective virtues has been revealed by the development of behavioural economics. Economic behaviour suffers from numerous defects (as described in Chapter 10) but the necessary corrective virtues are almost unknown. It follows that market economies need their characteristic virtues as (to quote Peter Geach) '…bees need stings'. (Geach, 1977, p17)[1] But these virtues need to be described and defined. While it may be impossible to create a new sin (Knox, 1955 / 1928), sometimes new virtues may emerge as our understanding of human nature improves. Virtue ethics appeals to the character of individuals and we apply the test of 'What would the good man do?' in seeking to describe the new virtues we seek to establish. (Zwolinski & Schmidtz, 2013, p224)

Other virtues related to contracts and agreements, what Deirdre McCloskey has called the 'Bourgeois Virtues', had been largely abandoned following the ascendency of Kantian and utilitarian ethics in the 19th and 20th centuries. (McCloskey, 2006) She points out that from the time of the Enlightenment, the three 'theological' virtues, faith, hope and charity were reduced to one, namely charity or benevolence. The four 'pagan' virtues, temperance, fortitude, justice and prudence remained. (McCloskey, 2006, p303ff) She then describes, how with the rise of utilitarianism, these remaining five were reduced to prudence. In *Bourgeois Dignity*, (McCloskey, 2010) she argues that the rapid economic growth in 18th

[1] Geach's remark refers to the fact that unlike wasps, bees die when they sting. The explanation for the difference is that wasps are predators which sting to kill their prey. In contrast bees sting to protect their hive.

century Britain was due to an increase in 'bourgeois dignity' by which she means that business and commerce became more respected. She writes:

> "The key economic event of early modern times is… …a Revaluation of bourgeois behavior, an increased if sometimes embarrassed acceptance by others and by themselves of the bourgeois' virtues…." (McCloskey, 2010, p24)

But what does Deirdre McCloskey mean by the 'bourgeois virtues'? Her answer is that these are predominantly respect for contract and commutative justice. She continues:

> "The very concept of justice shifted, away from the justice of giving His Grace his due and toward the justice of honoring contracts." (McCloskey, 2010, p26)

The disappearance of the bourgeois, or what we may call the economic, virtues did not happen all at once. Take for example Samuel Smiles' *Thrift* (Smiles, 2016 / 1875)) which describes the virtue of prudential saving and his *Character* (Smiles, 2016 / 1871) which epitomises virtue ethics' focus on character formation.[2] Both books and his *Duty* (Smiles, 1881) and *Self Help* (Smiles, 1969 / 1859) and indeed his *The Lives of the Engineers* (Smiles, 1874-1879) are moral tracts teaching his readers what virtues they ought to practise. *Duty* which has the subtitle 'with Illustrations of Courage, Patience and Endurance' is an extraordinary exercise in practical virtue ethics. But by the turn of the 19th century their influence had waned as utilitarian and deontic theories waxed.

One might suspect that this thesis is a disguised defence of capitalism cloaked by the claim that markets and market transactions are somehow built into human nature? No doubt such an argument could be made. The exercise of the human powers and virtues that we describe are done most fully in a market setting where contracts predominate over central decision making. It follows that there must be a presumption in favour of a system that permits the exercise of these beneficial powers and the virtues which they entail. That said, this thesis is an attempt to describe (or perhaps prescribe) the characteristic economic

[2] Their subsequent disappearance can be illustrated by the review in the *Spectator* of *Thrift* which included the following: "There is no book among the current literature of this day we would rather see in a young man's hand than this." (Smiles, 1874-1879, Vol 3, *History of Roads*, Endpapers p2) An equivalent statement today would at best invite ridicule.

virtues necessary for activity in a market economy using the principles of virtue ethics. These are based on human nature and the concept of eudaimonia or human flourishing.

Attempts have been made to give an account of business ethics in terms of the virtues. (Hartman, 2013 and Baker & White, 2016) But they have not been grounded in human nature and the unique power of human beings to make contracts and to specialise. By examining this aspect of human nature, we can discover what makes for human flourishing. In the same way that by studying the character and life of a plant (perhaps even from a seed catalogue) a gardener can discover how to improve his vegetable crop and the colour of his flower beds, so we can discover the 'conditions of human flourishing' and what virtues are needed to promote them.[3]

But how are we to establish this conclusion? This thesis is divided into three parts.

Part 1, Chapters 1 to 3, explains and justifies the concept of human nature and describes how it is the source of the virtues.

In Chapter 1 we analyse and justify the concept of human nature and we do this in part by showing that there are indeed defining 'anthropological differences' between human beings and other animals. In chapter 2 we explain and justify the concept of natural normativity and the use of unquantified present tense statements, 'Aristotelian Categoricals', to describe human nature. In chapter 3 we explain how human nature specifies the virtues. By describing human nature, we can tell what is good for human beings and what makes them thrive.

In Part 2, Chapters 4 to 8, we explore how a few (unique) human powers are productive of much good and are a source of human flourishing. Without them we would not be fully human and our lives would be greatly impoverished.

In chapter 4, we show that human beings have the unique power to make contracts and to create other 'normative expectations'. These are what Elizabeth Anscombe called 'Aristotelian Necessities'. Such agreements can be formed into complex collaborative structures in a variety of domains. These include language and, important for our argument,

[3] The last phrase in this sentence is a conscious allusion to Colin Clark's (once) famous book, *The Conditions of Economic Progress*. (Clark, 1957 / 1940)

economic activity through the division of labour. These abilities pervade all human life which would be deficient, defective and impoverished without them. Specialisation and the division of labour flow logically from the human power to make contracts and all species of promises and contracts involve specialisation. In chapter 5 we explain how contract combined with property are productive of economic welfare because they allow for the design and completion of economic plans in collaboration with others. In chapter 6 we show that human nature is both combinatorial and infinitary and that this power is exemplified in language and economic activity. In chapter 7, we show how this infinitary and combinatorial power is epitomized in the division of labour which has the power of generating economic growth and welfare. In chapter 8 we explain how economic welfare contributes to human flourishing. Although economic welfare is to be distinguished from flourishing, it is for the most part an important constituent of it. A poor country is one where generally people are not doing well, whereas in a rich one there is, at least, the wherewithal for them to do better.

In Part 3, chapters 9 to 12, we explore how the characteristic virtues of economic activity can enhance human flourishing. These include the passive virtues relating to contracts and agreements, corrective virtues to mitigate the flaws revealed by behavioural economics and the active virtues that relate to entrepreneurship and wealth creation.

In chapter 9, we describe the contractual virtues related to transaction costs – those costs of economic activity that derive from making contracts and agreements and to enforcing them. These 'Coasian' virtues are concerned with the reduction of transaction costs in all their many forms. In large measure they depend on trust. In chapter 10 we explore the corrective virtues which mitigate the deficits in economic understanding and action revealed by behavioural economics. In chapter 11 we turn to the active virtue of entrepreneurship which applies both to the entrepreneur businessman and to anyone who is economically active.

In chapter 12, the final chapter, we draw some general conclusions that should not be thought of as recommendations for governments to introduce new laws or to improve regulation. Rather, we propose the simple practice of the economic virtues we have described, to be grounded and protected by the time-honoured instruments of education, habituation, leadership and sometimes the law.

The Key Arguments

Set out below are seven key arguments outlined in this thesis:

1) The concept of a distinctive human nature is justified and is confirmed by Glock's 'social turn'. (chapter 1)
2) Descriptions of human nature reflect natural normativity. (chapter 2)
3) Contract, property, recursion and the division of labour are built into human nature. (chapters 4, 5, 6 & 7)
4) Human practices, 'networks of exchange' (following MacIntyre) have particular characteristic virtues. (chapter 9)
5) In defining a virtue the test of 'What a good man would do' can be decisive. (chapter 4)
6) Grice's *Principle of Co-operation* can be made a prescription and used as a template for similar Principles applicable to economic activity such as the *Principle of Economic Collaboration* (chapter 9) and the *Principle of Mitigation* (chapter 10).
7) The characteristic economic virtues are contractual, behavioural and entrepreneurial (chapters 9, 10 & 11)

PART 1 HUMAN NATURE AND VIRTUE ETHICS

Chapter 1 Human Nature

Specific virtues (and vices) flow from a detailed and accurate account of human nature. The concept of human nature is important and needs justification if the argument is to be sustained. Human nature specifies what constitutes 'eudaimonia' or 'human flourishing' and because human beings have certain characteristics particular virtues and vices flow from them. Philippa Foot famously pointed out, that the character of a particular species of plant, governs what makes it a good example of its species and what makes it thrive. (Foot, 2001, p25ff) Indeed the argument can work in reverse. We can tell, to a large extent, what we ought to do from what counts as flourishing.

Take the following example. Psychologists (and others) have discovered that human beings have a previously not fully recognised susceptibility to ascribe their successes to their own ability which are really the result of good luck – or, as Nicholas Taleb put it of being 'fooled by randomness'. He gives the example of an apparently successful trader 'John' whose (temporary) success was the result of grossly underestimating the frequency of events which would destroy his strategy and his fortune. (Taleb, 2007 A, p86ff) This has three types of consequences for ethics. First, the prudent person will allow for this flaw in his judgements about his own abilities. Second, he will not take, for example, the proclaimed financial expertise of another person at face value. Third, the good man will not exploit this newly revealed weakness in the people he collaborates with. Thus, a discovery about not previously known (or well understood) human characteristics can have consequences for the virtues we ought to practise.

In a similar way since human beings are naturally collaborative and combinatorial, characteristic virtues and vices (which both deserve to be better appreciated) flow from these facts about human beings. We can assess human practices, particularly those relating to exchange and economic collaboration, by the degree to which they promote eudaimonia or human flourishing. This is because economic welfare is an important part of human flourishing. The relation between these two concepts is discussed in detail in chapter 8.

1 Essentialism and 'Thick' and 'Thin' Human Nature

It follows that the concept of human nature is important for our argument. But the concept is controversial despite its use in many of the human sciences, notably linguistics and psychology. It is claimed by evolutionary biologists, for example, that the concept is an outdated pre-Darwinian relic. (Samuels, 2012, p1) and numerous other writers have expressed scepticism about the legitimacy of the concept. (Hannon & Lewens, 2018) Much of the opposition is based on the assumption that belief in human nature depends on essentialism. But while we accept that essentialism (properly understood) entails a belief in human nature, the reverse is not the case. In other words many believers in human nature are opposed to essentialism. We will review two such writers, Mary Midgley and Steven Pinker, who use the concept of human nature fruitfully – yet, in Midgley's case rejecting essentialism explicitly and in Pinker's case implicitly. We will also accept the conclusion of Hans-Johann Glock that human nature has three striking features, which differentiate human from animal societies; yet like Midgley and Pinker, Glock rejects essentialism. It follows that we have no need for essentialism provided that we can justify a conception of human nature that allows for the existence of some important or, to use Glock's phrase, 'striking features' of human beings and human societies.[4]

But first, what is meant by essentialism? It reflects the everyday intuition that an entity can lose some properties without losing its character as an 'X' but there are also other properties which if lost mean that it ceases to be an 'X'. This represents the distinction between accidental and essential properties. Something that loses an essential property becomes something else. An essentialist might argue that a human being could be defined as a 'rational animal'. In other words, the essentialist description of an entity is an attempt to give an answer to the question: 'What is it?' The answer to the question might well be: 'It is a cow.' To the further question: 'How do you know?' the answer might be as follows: 'Because it is a female four-legged ruminant.' Essentialism is best seen as a means of differentiating one kind of thing from another. Thus, if the essence of 'X's is to have the property 'Y', then any individual 'Z' that is an 'X' has 'Y'. Essences are not always easily discerned. In the case of geometric figures, it may be easy as they have few non-essential,

[4] Despite their claims actual and implicit to eschew essentialism, all three writers Midgley, Pinker and Glock seem unable to help falling into what might be called 'informal essentialism' as they all refer to some human characteristics as being more important than others.

or accidental properties, but in the case of animals which have a rich array of properties it may be difficult to discern which are essential. Thus, before it was discovered (or became widely known) that whales are mammals, they were classified as fishes. An animal that looks like a whale but is not a mammal cannot be a whale.[5]

An important insight of essentialism is that some surface properties of entities are essential because they flow from the essence. Humans have a sense of humour and this is one of their properties which derives from their essential rationality. Thus, if a creature *constitutionally* could not see jokes or understand what a joke was then it could not be rational and hence could not be a human being. (Oderberg, 2007, p49)

In what follows we will identify several powers and abilities of human beings, which an essentialist might very well identify as essential properties. They can be described variously as 'striking features' (Glock, 2012, p129), as some of a 'rich and complex arrangement of powers and qualities' (Midgley, 1979, p207), 'deeper universals of mental structure' (Pinker, 2002, p435) or the 'design specs of the basic human faculties'. (Pinker, 2002, p195). We have no need to engage in the controversies associated with essentialism as our argument only depends on the existence of some important human characteristics and not on whether they form all or part of the definition of a human being. If they do, that is not our concern.

We will suggest that these features, powers or deep universals are unique to human beings, but our argument would be unaffected if this were not the case. If virtues flow from human nature, then it does not matter whether other creatures have all or some of those same features, powers or deep universals. It follows that our interest in whether these qualities are unique to human beings is only to help identify them and to define them precisely.

In this chapter we will claim that it is indeed legitimate to make statements about human nature and we will argue that only humans have certain powers and abilities and that these form an important part of their 'natural history'. In later chapters we will show that humans have a power to create 'normative expectations' (for prime example, to exchange one thing

[5] It might be an example of convergent evolution.

for another and to agree on contracts) and to collaborate in forming complex hierarchical structures, economic and linguistic amongst others.

At this stage it is useful to introduce a distinction between what we may call 'thin human nature' and 'thick human nature'. The former represents the form and physical powers of human beings which are the expression of the genotype.[6] In other words, the physical appearance and the physical abilities of human beings are inherited and adapted (perhaps to some significant degree) by natural selection, but the intellectual powers of man result from a generalised learning ability formed by circumstance, nurture and a cultural context. In contrast, 'thick human nature' represents the idea that the moral and intellectual powers are in considerable part formed by the expression of the genotype.[7] In other words human beings have a substantial array of moral and intellectual innate powers, abilities and instincts. These powers though do not determine what we do. For example, as we shall see in chapter 6, humans have particular linguistic powers based on recursion, but these do not determine what we say.

Elaborating the distinction between the concepts of thick and thin human nature immediately raises the question of why some parts of human nature, 'thin human nature', are inherited characteristics while the intellectual powers, 'thick human nature' are supposedly rather the result of learning and training. What is it about the intellectual powers that apparently make them very largely the result of circumstance, nurture and culture when other powers and characteristics are inherited? This is a question that the advocates of thin human nature rarely ask or answer.

We will begin by discussing the views of two eminent writers on human nature, Mary Midgley and Steven Pinker, and their support for the legitimacy of the concept of 'thick' human nature. Despite their rejection of essentialism, Pinker, Midgley (and Hans Johan Glock whose views we will discuss in section 7) accept that human beings have

[6] We assume that all inherited traits derive from the genotype, but this is not necessarily the case. (Bonduriansky & Day, 2018) Still the important point is that *they are inherited*.

characteristics and powers some of which are more important than others. They are either different in kind or are significant improvements on qualities that other animals have.

2 Mary Midgley and Thick Human Nature

In *Beast and Man*, *the Roots of Human Nature* (Midgley, 1979) Mary Midgley attacks what she calls 'blank pageism' and argues that thick human nature and its associated instincts exist. And she comments: "…but the very idea that anything as complex as a human being could be totally plastic and structureless is unintelligible." (Midgley, 1979, p19) She describes thick human nature as involving a bundle of characteristics and powers some of which are '*more* or *less essential*' than others. (Midgley, 1979, p206)(Emphasis in the original) She more likely means '*more* or *less important*'. Midgley describes the 'excellences' or important features that humans have and refers to lesser features as 'chance qualities'. Midgley maintains that human beings have a number of characteristics that distinguish them from other animals, and these include: "...conceptual thought or reason, language, culture, self-consciousness, tool-using, productivity, laughter, a sense of the future…" These and other characteristics "…form part of a cluster, but none of them can monopolise [the difference] or freeze it into finality." (Midgley, 1979, p206) She asks what we would say of a man who had all these characteristics but lacked the normal human affections. She continues:

> "These, of course, are plainly like those of many other species, so they do not get named as the differentia. But shortage of them is the commonest reason for calling people inhuman. Because of this sort of thing it is really not possible to find a mark that distinguishes man from 'the animals' without saying *which* animals. (Emphasis in the original) We resemble different ones in different ways." (Midgley, 1979, p206)

She concludes that to expect a single difference is 'absurd' and the right approach is to expect "...not a single, unique quality but a rich and complex arrangement of powers and qualities, some of which it will certainly share with its neighbours." (Midgley, 1979, p207) Midgley does not discuss the possibility that some powers might be reducible to more fundamental abilities. Thus, the power to make turning machine lathes is just the complex expression of the human ability to make and use tools.

Midgley's initial approach is to focus on instincts and motives. She defends the concept of instincts, which she claims could equally be called 'drive[s] or program[s]' (Midgley, 1979, p51). She argues that as constituents of human nature they can be 'closed' like bee dances in which bees perform "…the same complicated pattern, correct in every detail…" even though they have been "…reared in isolation from any member[s] of their own species and any helpful conditioning." (Midgley, 1979, p52/53) Or they can be 'open' instincts that provide very general instructions - 'get home' for example that can be instantiated in a number of different ways.

This distinction is critical for Midgley's defence of the concepts of both instinct and human nature against critics who claim that they are deterministic. Humans, Midgley argues, cannot live without culture, but this does not limit their freedom, as it provides the context within which freedom can exist. She writes of art that "…spontaneity makes sense only against a background of what is expected. Art always requires a tradition." (Midgley, 1979, p 296) and she gives the example of the adoption of Benin bronzes and its extraordinary effect on European art in the early 20th century. "Creativity…" she explains "…in art is *not* playing God the Father and producing a wholly new world. It is saying something new about the world there already is." (Midgley, 1979, p297)(Emphasis in the original) It follows that culture does not restrict creativity but provides a vital part of its wherewithal.

3 Steven Pinker and Thick Human Nature

In *The Blank Slate*, *The Modern Denial of Human Nature* (Pinker, 2002) Steven Pinker makes a robust defence of human nature against critics who claim that human nature is a 'blank slate' that is highly plastic and is largely formed by 'nurture' or culture. Pinker makes no attempt to give a philosophical or metaphysical account of the character of statements about human nature. He does not discuss essentialism and appears to consider statements about human nature as ordinarily scientific. He reproduces D. F. Brown's extensive list of human universals. (Pinker, 2002, pp435-439 & Brown, 1991) This multipage list includes some 385 items such as: world view, tickling, pretend play, rites of passage, cooking, music, etc. These he claims are primarily "…'surface' universals of behaviour and overt language noted by ethnographers." and the list does not include "…deeper universals of mental structure that are revealed by theory and experiment." (Pinker, 2002, p435)

Pinker claims that the characteristics in which he is interested are those described by psychologists, linguists and neuroscientists. He explains later that they are fundamental and hence revealing about human beings and their lives. He defends the legitimacy of these discoveries and insights which he thinks are telling and important.

Pinker cites John Locke's famous remark that the mind is like 'a white paper void of all characters' and claims that it is often associated with the idea of the Noble Savage. This idea originated in 18th century misconceptions of non-European tribal societies and depends on the idea of a noble original nature which is then corrupted by civilisation. Pinker has an easy (and entertaining) time in showing that supposed evidence, cited by writers such as Margaret Mead, that indigenous peoples uncontaminated by civilisation are naturally peaceful and virtuous is non-existent. Pinker points out that such claims are based on simple misunderstandings by mid-twentieth century ethnologists. In one case it was based on a tribe that did not exist and had been invented by a government department to promote tourism. (Pinker, 2002, p56)

Pinker argues that a natural corollary of the blank slate thesis is Cartesian dualism which he describes using Gilbert Ryle's famous phrase 'the ghost in the machine'. (Ryle, 1949) Pinker argues that the conception of the mind as a non-material substance is naturally minimally structured and claims further, following Ryle, that such a doctrine is incoherent. It is difficult to see how an immaterial substance can have effect on a mechanism and *vice versa*. Pinker's solution is to suppose that psychological attributes are really mechanistic and he adopts a computational theory of the mind. (Pinker, 2002, p32) But this solution is based on a false dichotomy. Either one believes, Pinker assumes, that the mind is a non-physical substance or that it is brain machinery. He fails both to read Ryle sympathetically and to realise that there is a third alternative. This is that human beings are not combinations of immaterial substances and meat machinery but are rather purposive and deliberative creatures to which various psychological powers, abilities and activities can be attributed. Pinker's rejection of Cartesianism leads him to believe that the only truly illuminating understanding of human nature is in the form of empirical scientific theories.

In a revealing passage, he explains how he was once in a BBC TV debate on whether 'science can explain human behavior'. Pinker relates how his interlocutor, a philosopher, argued that in answering the question of why someone was put in jail ordinary everyday explanations

were enough. “Explanations of behavior are like *narratives*, she argued, couched in the intentions of actors – a plane completely separate from natural science.” (Pinker, 2002, p32) (Emphasis in the original) But Pinker counters that:

> “…the cognitive revolution [has] unified the world of ideas and the world of matter using a powerful new theory: that mental life can be explained in terms of information, computation and feedback. Beliefs and memories are collections of information – like facts in a database, but residing in patterns of activity and structure in the brain. Thinking and planning are systematic transformations of these patterns, like the operations of a computer program.” (Pinker, 2002, p32)

This view is unconvincing. Without exploring its flaws in any detail, it is enough to say that it cannot account for the normative character of most human activities. The ‘data’ in a computer and its neural equivalents in the brain when described ‘scientifically’ have no more meaning by themselves than the marks on a piece of paper. More conceptual resources are required than an analogy with a computer can provide. (Searle, 1990.)

We are left with considerable sympathy for Pinker’s interlocutor who accounted for human action by the reasons given by the person in question, or which can be ascribed to him by third parties. Indeed, much of human action is explained and analysed by narratives that tell the story of who did what, when, why and how. Still Pinker surely has a point. Discoveries in the human sciences can have a significant bearing on explanations of human activities. For example, the discoveries of behavioural economics give us insight into a decision to purchase one good rather than another not revealed by a simple narrative of preference and choice.

Pinker’s decision to eschew explanations in terms of narratives leads him to ignore analysis of human behaviour and actions as intentional and normative. But such explanations of behaviour are important to our argument. Humans have the power to form ‘normative expectations’ – ranging from simple conventions and understandings to highly complex enforceable contracts. The significance of this power is discussed in chapter 4.

4 The Critics of ‘Thick’ Human Nature

Before analysing critics of the existence of ‘thick’ human nature it is worth reviewing the arguments of those who claim that if it did exist it would have dire consequences. Of course,

even if these fears were justified it would have no bearing on the *existence* of 'thick' human nature. But Pinker's analysis suggests that in each case the fears are based on supposed facts that are not actually the case. Pinker lists four fears that cover much of the ground covered by critics of 'thick' human nature:

> First, that human behaviour is determined to a large degree by the genotype and consequently ill-behaviour can be justified by an appeal to human nature. In particular it is feared genetics could justify racism and sexism – *Fear of Inequality*. (Pinker, 2002, pp141-158)
>
> Second, a doctrine of thick human nature is supposed to imply that political, economic or moral progress is impossible because human behaviour is fixed by the human genotype – *Fear of Imperfectibility*. (Pinker, 2002, pp159-173)
>
> Third, if life is the product of genetics then we lack freedom and we can no longer be held responsible for our actions – *Fear of Determinism*. (Pinker, 2002, pp174-185)
>
> Fourth, if human life is determined by biology then it can have no higher meaning or purpose – *Fear of Nihilism* (Pinker, 2002, pp186-194)

As we shall see most of these fears are based on the misconception that thick human nature substantially pre-determines human actions and hence justifies prejudice, unjust discrimination and crime. In contrast, it may actually provide a justification for human rights.

(i) Fear of Inequality

One important source of opposition to the concept of thick human nature is that it suggests that human beings may be naturally unequal and that this supposed fact justifies attitudes and policies that accept and support unjust treatment. These would include racism and sexism. If there were significant differences between races and sexes, then these facts could be used to justify the mistreatment of supposedly inferior races and discrimination against women. But the argument is flawed. First there is no evidence of significant moral and intellectual differences between the races and between men and women. For one example, Stephen J Gould has showm that the evidence of intellectual differences between the 'races' are minimal. (Gould, 1981) And second, if there were substantial differences, they would not justify

discrimination or mistreatment. This is because all normal humans are language using and rational and it is the resulting innate moral and intellectual powers which give them dignity and equality.[8]

Maria Kronfeldner argues that what she calls 'dehumanisation' is only possible if there is a 'vernacular' concept of human nature that provides a standard against which supposedly inferior people can be assessed. (Kronfeldner, 2018, pp16-32) But she claims that an accurate scientific concept would mitigate the possible ill effects of a crude vernacular concept. Still any concept of human nature, vernacular or scientific, that includes the existence of significant innate moral and intellectual powers in all humans would provide a foundation for human rights and protection against 'dehumanisation'.

(ii) Fear of Imperfectibility

Fear of Imperfectibility is the anxiety that a thick human nature threatens to legitimise the expression of the ugly side of human nature: aggression, sexual and economic selfishness, amongst others. It is claimed that they all might be rooted in 'thick' human nature. Socialists and communists, Pinker claims, are "…aghast at the thought that [their theories] run against our selfish natures". (Pinker, 2002, p161)

Pinker responds by arguing that such fears are the result of two related fallacies, the 'naturalistic fallacy' that because some practice exists in nature it must be right and its opposite, the 'moralistic fallacy' that if the practice is moral then it must exist in nature. Pinker argues that it is just mistaken to believe that nature justifies any practice and quotes Katherine Hepburn in *The African Queen*: "Nature, Mr. Allnut, is what we are put in this world to rise above." (Pinker, 2002, p163) If one assumes that all human behaviour is determined by the genotype (and there is no reason to suppose that this is the case), it might be argued that the discovery of a 'rape gene' would legitimise and excuse acts of rape. (Thornhill & Palmer, 2001) But even if there were a rape gene then it would not legitimise rape, but rather it should lead to stern punishment of rapists, education for young men and boys on respect for women, and the formation of good habits by good men who find themselves

[8] Human beings have been language using for perhaps 60,000 years. (Berwick & Chomsky, 2016, p92)

susceptible. Here Mary Midgley seems to best sum up the issue: “Knowing that I have a natural bad temper does not make me lose it. On the contrary, it should help me keep it, by forcing me to distinguish my natural peevishness from moral indignation.” (Midgley, 1979, p5)

(iii) Fear of Determinism

One important source of opposition to the concept of thick human nature is that it implies that the phenotype is so constrained by evolution that human beings are highly restricted in their behaviour, and that the range of their actions for which they can be held responsible is limited. This limitation of responsibility may be small, large or complete.

But Pinker’s explanation of exactly how human beings can resist biological impulses formed by evolution is unconvincing. He is rightly fearful that advances in psychological understanding could undermine responsibility: “A biology of human nature would seem to admit more and more people into the ranks of the blameless.” (Pinker, 2002, p175) His response is that people have a “…functioning brain system that can respond to public contingencies of punishment”. (Pinker, 2002, p183) But it is hard to see how a functioning brain system, any more than any other biological process, can impart responsibility. These unresolved difficulties aside, Pinker reasonably enough side-steps the “…ancient and perhaps irresolvable antinomy of free will and determinism”. (Pinker, 2002, p180.)

(iv) Fear of Nihilism

Pinker describes two variants of this fear – religious and secular. The latter is the fear that ‘biological explanations of the mind’ would ‘strip our lives of meaning and purpose’. If this were the case Pinker comments: “Life as we treasure it would be a sham, a Potemkin village with only a facade of value and worth.” (Pinker, 2002, p186) The religious version of the fear as expressed by Pope John Paul II, Pinker leaves largely unanswered but he criticises religious belief and the concept of the soul as having justified many evils. He seeks to refute the “…accusation that a materialist view of the mind is inherently amoral and that religious conceptions are to be favored because they are inherently more humane.” (Pinker, 2002, p187)

> Pinker's convincing answer is that although biological explanation appears to diminish responsibility for our actions and their significance, this is not actually the case. This is because biological explanation is compatible, he claims, with responsibility. He explains that: "…just because our brains are prepared to think in certain ways, it does not follow that the objects of these thoughts are fictitious." (Pinker, 2002, p192) And the objects of thought, he claims, include morality. He concludes that: "…a moral sense is part of the standard equipment of the human mind." (Pinker, 2002, p193)

An important assumption that underlies the replies to the fears reviewed is that while thick human nature describes human powers and abilities, it does not determine our expression of our built-in instincts or the use of those powers. Thus, Pinker contrasts explanation with exculpation. Just because we can explain someone's criminal act it does not follow that we can excuse it. More generally both Midgley and Pinker argue that human beings are not bound by their natures and have the power to enhance or to modify their expression.

An underlying theme which runs through the discussion of all four anxieties – and beyond is what Steven Rose *et al.* have called 'biologism' in their book *Not in Our Genes*. (Rose, *et al.*, 1984, p7ff) This is the doctrine that human acts are pre-determined by human biology. The authors Steven Rose, Richard Lewontin and Leon Kamin, criticise this view as either removing (or limiting) responsibility for actions and for misrepresenting and exaggerating the ability of biology to explain behaviour. The authors argue that where biology ends, choice and culture begin. Humans have a deliberative power that enables them to mitigate or enhance the promptings of their instincts. And, as we shall see, this power is the source of the particular virtues which we discuss in Part III.

5 Evolutionary Biologists Attack the Concept of Human Nature

Evolutionary biology has provided grounds for an attack on the concept of human nature. We shall examine the criticism of David L. Hull in particular. Hull's critique is contained in his paper 'On Human Nature' published in 1986. (Hull, 1986) His main argument is that evolution means that species are subject to continuous change and that consequently it is impossible to give a list of characteristics that constitute human nature. Hull believes that those who:

> "…want our species to be clearly distinguishable from other species… …are forced to resort to embarrassing conceptual contortions to include retardates, dyslexics, and the like in our species while keeping bees and computers out." (Hull, 1986, p4)

But Hull is mistaken because of the limited conceptual equipment that he uses. Biologists, Hull thinks, are limited to strictly biological categories. For example, he has no concept of the 'good example of an X' where 'X' represents a kind of plant or animal. Thus, a botanist can say of a particular plant taken from the hedgerow that it is a good example of a cowslip (*Primula veris*), but Hull's claim is that biologists are precluded from making statements of this sort. Such a specimen plant will be fully grown, in flower and without disease or other imperfection. Such a description of a good example necessarily includes limits on what can be so categorised. In other words, the concept of a 'good example' contains within it the possibility of a 'bad example'. There must be a contrast between the two if either concept is to be usable. A bad example of a cowslip would be one that had no flowers and was immature or deformed by weed killer or other interfering agent. The concept of a defect (and hence of a 'bad example') does not actually conflict with Hull's concept of evolutionary biology as he uses it without embarrassment to describe 'retardates' and 'dyslexics' in the passage quoted above. But he appears not to appreciate that his use of these terms vitiates his rejection of the concept of human nature. The concepts 'retardates' and 'dyslexics' imply the concept of defect which in turn, as we argued above, implies non-defective creatures – and natural norms.

But given the legitimacy of the concept of a 'good example of an X' it is quite possible to include 'retardates' and 'dyslexics' in one's description of human beings and to exclude 'bees and computers' without any of the 'embarrassing conceptual contortions' which Hull predicts. With a standard of a 'good specimen', it is possible to describe the human species in a way that is not so narrow that it excludes 'dyslexics or 'retardates' nor one that is so broad as to include bees and computers. While plainly not good examples of human beings 'retardates' and 'dyslexics' are plainly human. And bees and computers do not even approach the standard of a defective human being – the one evidently being an insect and the other an artefact. Further, as our standard of a 'good specimen' of a human would include the characteristic of being 'mammalian' then bees and computers would be excluded on these additional grounds.

Hull's argument is based on the belief that humans have evolved like other animals and that there is no evidence that human evolution has stopped. And any appeal to 'potentiality' and 'normality' will merely reflect a temporary stop on the evolutionary trajectory. Even if human universals were to be discovered they would be of no significance as they would be 'temporary contingencies' and that it would be a mistake to draw any conclusion from such accidental correlations.

But his claim needs examination. There is indeed evidence of very recent human evolution. Lactose persistence evolved amongst cattle herding communities between five and ten thousand years ago. (https://en.wikipedia.org/wiki/Lactase_persistence) Similarly, the prevalence of Celiac disease (or gluten-sensitive enteropathy) in western Ireland has been ascribed to dominance of the potato in the diet of the Irish over 400 years. Celiac disease is the inability of the body to digest gluten properly. The potato lacks gluten so there was no adaptive disadvantage in the inability to digest gluten until the change to a glutinous grain diet. (https://en.wikipedia.org/wiki/Coeliac_disease)

But there is also evidence that some of the more important human characteristics, such as tool use and language have been fixed for long periods of time. As we shall see in chapter 6 (page 110), there is evidence of human tool use and complex tool manufacture some 300,000 years ago. Further it seems that the human language capacity has remained unchanged for up to 60,000 years. Australian natives have been isolated for that period and an aboriginal child brought up in London would acquire English as easily as an English child. It seems that in at least two important respects human powers are not the rapidly moving target Hull's argument assumes. (Berwick & Chomsky, 2016, p92)

Some critics have attacked the idea of normality as a normative rather than a statistical concept. It has been claimed that the idea of 'normal function' is incoherent. (Amundsen, 2000) Ron Amundsen takes the example of 'Slijper's Goat', an animal discovered by the biologist E. J. Slijper, which lacked forelegs but learned to walk on its rear legs and was able evidently to lead something like a normal life. Amundsen concluded the goat "…illustrates the inadequacy of the metaphor of the genetic blueprint." (Amundsen, 2000, p14) In other words the idea that species have 'design specs' is mistaken as they live well enough even when formed atypically. Amundsen makes much of the fact that disabled human beings (being wheel-chair bound for example) can live satisfactory lives and that the disadvantages

they suffer from result from their adverse social environment rather than their physical constitution. But this argument is unconvincing. Imagine a goat born without legs: such an animal would be unable to move. It would indeed be an example of 'developmental plasticity', but it would also be a highly defective example of a goat. Take a further example, a goat which did not have reproductive organs. Not only would the unfortunate animal be unable to reproduce, but it would either represent a defective genetic 'design spec' or it would represent a faulty expression of a well-formed genome.

Similar arguments can be made against the assertion that blindness is not really a defect but only an atypical development. The fact that the blind can lead fulfilled lives and have means of mitigating their handicap is not an argument for saying that blindness is not a defect. Sight gives human beings significant abilities additional to their other sensitive powers and however easily they become adjusted to the loss, a very serious loss it remains.[9]

There are other flaws in Hull's approach. The chief difficulty is that in discussing human beings, evolutionary biology is ill-equipped to describe some of their more important characteristics. Evolutionary analysis suggests that the emergence of their current attributes is explained by natural selection. Changes in the genotype of human beings give rise to changes in their phenotype which are then selected depending on whether they are adaptive or not. Changes in both phenotype and genotype persist if they enhance reproductive success. Reproductive success in turn leads to the genotypical and phenotypical changes coming to dominate the population of the life-form in question. Note that the process depends on the change in the genotype being consistently reflected in the phenotype. If there is a genetic change that has no effect on the phenotype then there is nothing on which natural selection can grip.

The difficulty is that some of the more important characteristics of human beings appear to have no adaptive advantage. Take the ability of human beings to form true beliefs. This ability is not necessarily adaptive as it does not always bring reproductive advantage. Following Anthony O'Hear, we can say there is a fundamental distinction between what is useful and what is true. (O'Hear, 1997) In other words, many false beliefs may better

[9] People who have been blind for long periods of time may even resist having their sight restored on the reasonable grounds that the difficulty of the adjustment to sightedness after such a long period of blindness would outweigh than the advantage to be gained.

promote reproductive success than true ones. It is, for example, unclear why an ability to form true beliefs about particle physics should increase reproductive success.[10] O'Hear argues that an exaggerated (and hence inaccurate) response to evidence of predators may actually improve survival and reproductive chances and yet reduce the number of true beliefs. More accurate faculties and more true beliefs might actually reduce survival chances. (O'Hear, 1997, p59ff)[11] A similar argument was advanced by Alvin Plantinga in his evolutionary argument against naturalism. (Plantinga, 2011, p307ff)

These arguments demonstrate that the ability to form true beliefs is neither a necessary nor a sufficient condition for reproductive success. For our purposes this is important as it shows that evolutionary biology lacks the concepts necessary to give a full account of some of the more important attributes of human beings. Humans form true beliefs, but this cannot be accounted for in terms of enhanced reproductive success. And hence evolutionary biology is at a loss to fully account for them.

6 The Recent Debate Over Human Nature

One significant recent trend has been the attempt by some writers to re-establish the legitimacy of human nature despite the criticism of David Hull and evolutionary biologists. (Hannon & Lewens, 2018) The chief difficulty is that many writers believe that the concept of human nature depends on the truth of essentialism and since essentialism is assumed to be false then it is difficult for them to see how the legitimacy of the concept of human nature can be established. Some have reiterated on grounds similar to Hull that evolutionary biology completely undermines the concept. Because of evolution, human nature cannot exist as it is a moving target although, as we saw above, in many important respects the target appears to have been stationary for millennia.

But it seems that the concept is useful and indeed used regularly by psychologists, linguists and behavioural economists amongst others and as a result some have sought to give legitimacy to the concept without conceding essentialism. They make the obvious move of introducing the concept of 'typicality', but it immediately runs into serious problems. Thus

[10] Indeed, it might even reduce the probability of the long-run survival of human beings. Toby Ord describes other threats to human survival which are a consequence of the exercise of human intellectual powers. He calls these 'anthropogenic risks'. (Ord, 2020)

[11] Nicholas Taleb writes: 'Our minds are not quite designed to understand how the world works, but rather, to get out of trouble rapidly and have progeny.' (Taleb, 2007 A, p56)

we can imagine a species of which *all the extant examples* are defective and yet the 'design specs' describe a species without the defect. Thus, typicality and statistical normality cannot perform the role proposed for them. We have already discussed the concepts of defects and function and we will discuss them in greater detail in the next chapter. Curiously, few critics review the contribution of Hans-Johann Glock to which we now turn.

7 Glock and 'Anthropological Differences'

A clear demonstration that human beings had significantly different (and superior) intellectual powers from other animals would go far in justifying the concept of thick human nature. If human beings can be shown to be different in these important respects from other animals then the differences are likely part of their natures. A difference of this type has been described by Hans-Johann Glock as an 'anthropological difference'. (Glock, 2012, p128)[12] In other words, some differences between human beings and other animals are insignificant while others are important.

Glock's view appears compatible with that of Maria Kronfeldner's who divides the single concept of human nature (which she considers dangerously essentialist) into three: classification, description and explanation. (Kronfeldner, 2018) These three separate concepts allow her to legitimise a concept of human nature. Thus, Glock's descriptions of the striking features of humans and human societies fit naturally into the schema of Kronfeldner's second of her three divisions. Of course, it may well be that the three can be combined into an essentialist definition of the human species, but that does not concern us.

Glock gives the example of Plato's definition of a human being as a 'featherless biped'. He notes Plato's response to Diogenes Laertius's objection that a plucked chicken was also a featherless biped. This was to add the further criterion of 'with round nails'. (Glock, 2012, p110) But clearly this reply is unsatisfactory as the character of fingernails is not even a significant difference, and certainly not what Glock calls a 'difference with a difference'. Philippa Foot makes a similar distinction when she says that the colour of the patch on a Blue Tit's head is not a significant fact about it – but having two wings might be necessary to its life. Mary Midgley's term is a 'chance quality'. (Midgley, 1979, p203) However in the case

[12] In what follows, our approach reflects that of Hans-Johann Glock. (Glock 2012, p129ff)

of a peacock, the colouring of its tail might be an important characteristic because of its value in finding a mate. (Foot, 2001, p30)

Arguments of this sort have come under attack. It has been claimed that tool use is unique to human beings but counter-examples have been found demonstrating that tool use is an ability shared with chimps and some birds. Similar examples can and have been given for forward planning, language, rationality, theory of mind which have often been thought to be unique to humans. (Hurley & Nudds, 2006) This approach is often used to minimise the differences between human beings and animals and to claim that they are only a matter of degree. But 'only a matter of degree' is a slippery concept. Thus, Peter van Inwagen quotes David Berlinski as pointing out that you can make things similar by raising the level of abstraction of their description: "What Canada geese do when they migrate is much like what we do when we jump over a ditch: In each case, an organism's feet leave the ground, it moves through the air, and it comes down some distance away. The difference between the two accomplishments is only a matter of degree." (van Inwagen, 1994, p51) After much training monkeys have acquired vocabularies of some hundreds of words (or symbols) but human teenagers have vocabularies in the tens of thousands – a difference of two orders of magnitude.

The argument turns on what is meant by a 'difference with a difference'. Such a difference would be part of what we have called thick human nature. Glock argued that while some differences between humans and animals are evidently insignificant, others are not and count as genuine 'differences with a difference'. But the concept needs careful refinement. Glock gives the example invented by the German humourist, Loriot, the unique human ability to enjoy hot meals in flight. (Glock, 2012, p109) But in such cases, it can be shown that the difference derives from a more fundamental ability. In the case of hot in-flight meals the capacities might be tool use, language and the power to make contracts.

In other words, some differences between human beings and animals are insignificant while others are important. Glock's solution is to suggest that the criteria for a 'difference with a difference' is whether the characteristic plays an important part in the s*ocial* life of the animal in question. Thus, he asks:

> "What features and capacities, if any, are present in all human societies and absent in animal societies? Which capacities are prerequisite for the functioning of human societies?" (Glock, 2012, p129)

Glock explains that human societies are different from those of all other animals and claims that there are "…no less than three striking features prevalent in all human and absent in animal societies". Glock lists them as follows:

- LANGUAGE: a special and highly complex system of communication, namely language.
- COOPERATION: a special and highly complex kind of social relationship, one which involves social institutions, and hence cooperation, norms and values, and (possibly) division of labour.
- PLASTICITY: a special kind of *plasticity*, the capacity to adapt to highly diverse circumstances and environments through tools (technology) and rational deliberation (planning), a capacity which in turn depends on our *special cognitive powers*. (Emphases in the original) (Glock, 2012, p130)

Glock's 'social turn' has the advantage that it meets the criticism that if any particular human being lacks any of these 'striking features' it ceases to be human. Even if some people lack language, it does not falsify the theory that human societies are characterised by a 'special and highly complex system of communication'. The argument, though, needs an important qualification implicit in Glock's analysis but which needs to be made explicit. This is that the unique social attributes he identifies are *central to the lives of human beings*.

Glock's point can be illustrated by Adam Smith's contention that humans alone have the power to make contracts. The latter stated in a famous passage in the *Wealth of Nations* that:

> "Nobody ever saw a dog make a fair and deliberate exchange of one bone for another with another dog." (Smith, 1981, Vol 1, p26)

So what are we to make of monkeys that had been trained by Yale experimenters in the use of metallic tokens which they used in exchange with their fellows? (Dubner & Levitt, 2005 & Chen, *et al*., 2006) While taking part in experiments, the monkeys became able to use

tokens to buy and sell. In one celebrated example, a monkey (of its own initiative and not as part of an experiment) sold sex for a token which it then exchanged for a grape. (Dubner & Levitt, 2005, p3).

At the start of their article describing their experiments, M. K. Chen and his colleagues quote Adam Smith's statement that we have set out above. (Chen, *et al.*, 2006, p517/518) The implication of this quotation in such a prominent place is that Adam Smith's statement had been falsified. Indeed, while no dogs have exchanged bones, Tufted Capuchin monkeys (*Cebus apella*) have swapped sex for tokens and tokens for grapes.

But this suggestion is mistaken for several reasons. First, the monkeys were placed in wholly artificial circumstances in a laboratory and were subject to intensive training by the experimenters. Had there been no training there would have been no transactions of the kind recorded. Second, it is hard to see how the monkey transactions met Adam Smith's requirement that the exchanges be 'fair and deliberate' except in a much-attenuated sense. Fairness may have been established by the experimenters, but deliberation can only have been of a very diminished sort, as the monkeys did not know what they were doing and evidently could not account for their actions. They also appear to be subject to all the deficits of framing and endowment without the ability to correct them. In contrast, human beings can alter their behaviour if they come to understand the irrationality of their actions. In terms of Daniel Kahneman's *Thinking Fast and Slow*, monkeys appear to find 'thinking slow' very difficult indeed. (Kahneman, 2012)

But the vital difference that vindicates Adam Smith's claim is that contract and exchange do not play the central role in the *social lives* of Capuchin monkeys that they do in human lives. A Capuchin monkey that could not master exchange might be inferior in intelligence to one that could, but it could hardly be said to be defective like a monkey born without an arm or a leg. In contrast, a human being born without the ability to make exchanges (buying biscuits in a corner shop for example) would be very severely handicapped. This fact surely constitutes an anthropological 'difference with a difference'.

Glock's argument avoids essentialism which he thinks is philosophically suspect. Thus, he does not attempt to describe qualities that humans have but if lost would mean that they ceased to be human or to describe them as flowing from an essential property such as

rationality. He does not explain why he selects social life as his criterion for 'differences with a difference', but it is easy to see why he might do so. The social lives of human beings are just evidently far more complex and productive of well-being that the social lives of any other animal. Bees perform bee dances; humans produce opera.

It is instructive to put the argument in the context of discoveries in animal ethology over the last fifty years. These have shown that animals as varied as chimpanzees (and Bonobos) to corvids, cetaceans and parrots share some 'cognitive' abilities that were once thought to be unique to humans. (Hurley & Nudds, 2006) Such examples illustrate the power of Glock's argument as none of the abilities are significant in the social lives of these animals. The powers revealed are similar to those of humans (at a high level of abstraction) but they are inferior as none have the same significance for animal societies as Glock's three 'striking differences' have for human societies. For one of numerous examples, it was discovered that chimps can both make tools and use them both in their natural habitat and in the laboratory. This discovery was thought to confirm the existence of a continuum between humans and other animals. It occasioned the much-quoted remark by Louis Leakey who said of those who believed that tool use defined man:

> "I feel that scientists holding to this definition are faced with three choices. They must accept chimpanzees as man, they must redefine man, or they must redefine tools." (de Waal, 2016, p78 & Goodall, 1967, p32)

Leakey's dismissive remark about human uniqueness appears to have been reinforced by numerous other discoveries about animal abilities since the revelation of chimpanzee tool use. As we have seen similar discoveries have been made about other animals. But Glock's point still holds. None of these abilities match human powers of language, cooperation and plasticity in the context of the societies to which these animals belong. Some animals, parrots and corvids for example, can scarcely be said to live in societies at all. But even where this is the case, the abilities displayed do not permeate and sustain their societies in the way that they do human communities.

Take for example of the chimpanzee who was called derisively 'Nim Chimpsky' (1973-2000) This unfortunate animal was brought up as a human child and was made the butt of intensive training and experimentation by researchers from Columbia University. The

experimenters attempted to prove that chimps could acquire language. They hoped that if Nim Chimpsky succeeded in learning *American Sign Language* (ASL) then it would disprove Noam Chomsky's contention that only humans can learn a language. In the event the experimenters were disappointed. Nim Chimpsky signally failed to learn ASL and Chomsky's contention remained unfalsified. In a paper describing the results of the project, H. S. Terrace and his colleagues explained that Nim Chimpsky was unable to create sentences of more than a few words. (Terrace *et al.*, 1979) Laura-Ann Pettito who also worked on the project focussed on the inability of the chimp to use concepts. (Pettito, 2005).

But now imagine that the experiment had been successful and that Nim Chimpsky had learnt ASL. Suppose also that other chimps learnt ASL so that there was a group of chimps who could articulate and could communicate with each other. But their language use would be primarily in the context of human trainers and that by themselves they would use their linguistic ability only occasionally. In these circumstances we could hardly say that their ASL use passed the 'difference with a difference' test. This is because chimp language use would not pervade their lives in the way that human language permeates nearly all human activities.

8 Conclusion

In this chapter we have argued that ('thick') human nature is a legitimate concept which can be used to describe both the physical abilities and the moral and intellectual powers of human beings. Following Midgley and Pinker we have argued that critics have underestimated the power of human beings to mitigate or improve upon the expression of their instincts and the use of their powers. We have also claimed that the evolutionary critique of the concept of human nature is misconceived and that it is impossible to give an account of animals and human beings that does not use the concept of natural function. Following Hans-Johann Glock we have also argued that human societies have significant features that no animal society has and that they confirm the existence of human nature, as linguistic, cooperative and plastic. As we shall see in later chapters these provide the ground for the particular economic virtues that we want to discuss.

In Chapter 2 we will explain how facets of human nature are described by the means of what have been called 'Aristotelian Categoricals'. Such statements can be used to describe

the natural history of plants, animals and human beings and are irreducible to nomological statements of regularity.

Chapter 2 Human Nature and Natural History

1 Characterising Human Nature: Human Natural History

What then is the right way to characterise human nature? One approach is to argue that human beings (and other animals) are subject to regularities that can be formed into natural laws. This is the method adopted by Richard Samuels, who argues that when scientists investigate animals and plants, they discover regularities specific to the species studied. (Samuels, 2012) These regularities, he claims, "…hold largely – though seldom invariably – across the species". (Samuels, 2012, p14) He argues that there is no reason to believe that human beings are any exception and he gives a number of examples ranging from trans-cultural regularities in perception to the fact that children acquire the concept of 'ONE' prior to the concept of 'FOUR'. Samuels emphasises that his list of such abilities is a 'vanishingly small' sample of those discovered by psychologists and cognitive scientists. This approach attempts to side-steps the supposed difficulties of essentialism, and at the same time it has the virtue of allowing species specific statements. He points out that while they can be true generalisations about human beings and that they are 'counterfactually robust'. In other words that they are not accidental and can give a sense that human nature is in some sense fixed.

But Samuels points out that the nomological conception of human nature has a significant flaw. This is that it has difficulty in accommodating defective examples of human beings. Samuels gives the example of an aphasic who although human will lack human nature because he breaks the general law that speech is part of human nature. Samuel's solution is to argue for what he calls 'causal essentialism'. By this he means that in the case of human beings causal essences are expressed not by defining statements but by descriptions of "…mechanisms, processes and structures – that cause many of the superficial properties and regularities *reliably* associated with humanity." (Samuels, 2012, p9ff) (Emphasis added.)

The difficulty with this view turns on the word 'reliably'. It is unclear whether the term is a statistical or a normative concept. Does it mean that the regularity applies to most specimens of the species in question or does it mean that the regularity will apply to a well-formed non-defective 'good specimen'? If it is the former, then causal essentialism is inadequate to describe an important characteristic of living beings – whether they are well-

formed good specimens or not. Another way of analysing causal essentialism is to focus on the 'mechanisms, processes and structures' that form the living being described by the statement of the causal essence. A statistical regularity can give no indication of whether any of the 'mechanisms, processes or structures' are working properly. It is easy to give examples of plants or animals whose reproductive success (for example) is achieved very infrequently. thus, only a small minority of acorns become oak trees and the statistically regularity of acorns not becoming oak trees is largely irrelevant to the natural history of *quercus rubor,* yet it must be counted as a reliable regularity associated with oak trees. Thus regularities, even reliable ones, can give no guide to whether the living creature is defective or a 'good specimen'. It might well be that the majority of a population of oak trees were suffering from a particular form of blight, but this would not give us grounds for saying that a good specimen of an oak tree would be one that was blighted.

2 Anscombe, Natural Norms and the 'Aristotelian Categorical'

A better solution is provided by a type of statement known as the Aristotelian categorical. This important concept originated in the writings of Elizabeth Anscombe in her famous 1958 paper 'Modern Moral Philosophy' (Anscombe, 1981 A / 1958) and was developed (and given a name) by Michael Thompson in a book and a series of papers (Thompson 1995, 2004, 2008 A and 2008 B). It was also used by Philippa Foot to define the characteristics of human beings on which the virtues could be based. (Foot, 2001, pp29-36)

Anscombe introduces the concept in a discussion of natural norms as a counter to the emotivist and utilitarian ethics that she was criticising. She argues that in the same way that the species, man, has such and such a number of teeth,

> "….so perhaps the species *man*, regarded not just biologically, but from the point of view of the activity of thought and choice in regard to the various departments of life – powers and faculties and use of things needed – 'has' such-and-such virtues: and this 'man' with the complete set of virtues is the norm, as 'man' with, e.g., a complete set of teeth is a norm." (Anscombe, 1981 A / 1958, p38)(Emphasis in the original)

This compact statement establishes the concept as a description of a human being that establishes a norm or standard against which a particular man can be judged. This

derivation of natural norms from statements about human nature is in the form of an almost tentative assertion rather than an explicit argument. But a comprehensive argument and justification is just what Michael Thompson provides.

3 Thompson, the Life Form and Aristotelian Categoricals

Michael Thompson gives a detailed analysis of the type of statements he called Aristotelian categoricals. (Thompson, 1995, p267) His analysis rests on a point made by Elizabeth Anscombe. She had argued that it was only possible to understand an acorn as an 'oak seed', by viewing it in its proper context as a seed from which an oak tree could grow. (Anscombe, 1981 B / 1968, p85-87) Thompson explains that in the same way that the closest examination of ink marks on a piece of paper can give no indication that the arithmetical formula that they formed was true, so the examination of a biological process without context cannot tell us what is going on. (Thompson, 2008 A, p58ff) The wider context, Thompson argues, can be described as the 'life-form' of a species that require concepts for the activities of the organism which portray its structure, organisation and the role of its parts. In turn the concept of the 'life-form' implies standards for its proper working and for its defects. In other words, a living entity may be said to be ill, healthy, mature, immature, old or young, dead or alive, deformed, or a good example of its species. The life-form is an entity to which it makes sense to apply such natural norms.

To illustrate the point Thompson adapts Donald Davidson's 'Swamp man' argument set out in the latter's 1987 article 'Knowing One's Own Mind'. (Davidson, 1987) Davidson sought to show that meaning requires a wider 'externalist' context of other times and places beyond the physical presence of the person in question. He gives the example of a creature that comes into existence from 'sand or swamp muck' by 'lightening' or a 'quantum-mechanical accident' that is physically identical to himself. Davidson claims:

> "My replica can't recognize my friends: it can't recognize anything, since it never cognized anything in the first place. It can't know my friends' names (although of course it seems to), it can't recognize my house. It can't mean what I do by the word 'house', for example, since the sound 'house' it makes was not learned in a context that would give it the right meaning – or any meaning at all. Indeed I don't see how

> my replica can be said to mean anything by the sounds it makes, nor to have any thoughts." (Davidson, 1987, p444.)

Thompson argues that as 'meaning' requires external context, so also does the understanding of the activities of a living being. He argues that such an 'accidental' creature would lack the wider context for life-form predicates to be legitimately attached to it. Without such context we would not be able to tell what it was. Even, he argues, if it had DNA, one would have no norm by which to judge whether the DNA was defective. Given the *accidental* origin of the creature, then any processes that go on within it are also accidental and lack the function of the vital processes of a living entity. The creature lacks the 'wider context' of a 'life-form'. (Thompson, 2008 A, pp60-62)

Thompson does not explain why having a particular origin makes it impossible for us to see whether the accidental creature was well-formed, in good condition, acting appropriately to circumstance, or defective in any way. We would in all probability assess the replica creature in the same way as we would any other creature of the same sort. Indeed, it is difficult to see how the origin of a living being can prevent us from seeing whether or not its DNA is defective. In reality, much of our understanding of living creatures is direct without interpretation. We may take a sick cat to the vet to find out what is wrong with it, but we do not consult the vet on what would count as sickness or (usually) on whether it is sick. Our understanding of living creatures is like that of writing. We no more see lumps of conjoined flesh and interpret them as a life form than we see marks on a piece of paper and interpret them as a message. A person just reads the message and certainly does not interpret the marks on the paper unless they are in a foreign language. Similarly, Peter Hacker argues claiming that we hear 'sounds' and see 'colour patches' that the brain then interprets (rather than hearing speech and seeing coloured objects) is just an example of 'empiricist dogma'. (Hacker, 2013, p99 & Bennett and Hacker, 2003, p80)

And in the case of non-human life it would be obvious very rapidly what the life-form of the accidental creature was as it began to acquire a 'wider context'. After its accidental appearance it would soon begin to feed, hunt, mate and reproduce just like other members of its species. Similarly, the other facets of the 'wider context' could be provided by knowledge of other members of the same species. The replica would show all the signs of growth and development (such as growth rings in its horns for example) from fertilised egg

to adulthood which had never taken place. Similarly, it would show all the signs of a multi-million year evolutionary trajectory that was an illusion.[13] But this would not prevent these signs of growth and development from establishing the 'wider context' that Thompson's argument requires. And even the swamp man would begin to gain a wider context as he began to find a place in life and society (despite the notorious difficulties of personal identity involved in replica persons). The origin of a creature, accidental or otherwise, appears less important for establishing a 'wider context' than Thompson supposes. Still despite these difficulties Thompson is surely right to insist that context is essential for understanding a 'life-form'. And the context is the full 'natural history' of the creature in question, in other words its suite of behaviours in characteristic circumstances.

Thompson then considers how a 'life-form' can be described. He maintains that 'life-forms' or species are to be described in terms of 'natural history' and he gives the example of the bobcat as described in an imaginary natural history television programme of the 1970s. He points out that in a natural history TV programme the descriptions of the bobcat life-form are couched as statements of the following kind:

> "When springtime comes, and snow begins to melt, the female bobcat gives birth to two to four cubs. The mother nurses them for several weeks" (Thompson, 2008 B, p63)

This 'natural-historical judgment' is not made of any particular bobcat: no female bobcat gives birth to 'two to four cubs' but to a discrete number, two, three or four. Thompson points out that, as the programme describes the life of a bobcat over a year, film of different actual bobcats may be used to illustrate different facets of its life over the seasons. Thompson calls descriptions of the life of the bobcat 'natural-historical judgments' and distinguishes them from stories about the lives of particular bobcats. He calls sentences that describe such judgments as 'Aristotelian categoricals'. Such sentences can (but do not have to) have the same form as a remark about a particular creature. Thompson gives the example of the statement 'The domestic cat has three legs' which in appropriate context means only that the local domestic housecat 'Tibbles' is without a fourth leg. (Thompson,

[13] Thompson's thought experiment appears similar to the theory of the 19th century botanist Philip Gosse who attempted to reconcile Darwinian evolution with the Biblical account of creation by arguing that living creatures *were created with evidence of an evolution which had never taken place*. (Gosse, 1974 / 1907)

2008, p65.) Aristotelian categoricals are usually expressed in the present tense and can cover a wide variety of biological descriptions including anatomy, physiology, ethology, and biochemistry amongst others.[14] (Thompson, 2008 B, p65/66) References are to species, 'the horse', rather than the individual 1933 Derby-winning racehorse 'Hyperion'.

Aristotelian categoricals can be expressed (or implied) by the description of named individual animals. Take the TV series 'Meerkat Manor'. In a multi-part series about a family of Meerkats in the Kalahari Desert, the animals are shown going about their daily business, foraging, breeding, looking after young, keeping watch for predators, and defending their territory against rival families. But in this case the animals are given names. The matriarch is known as 'Flower' and her family is known as the 'Whiskers'. The purpose of the anthropomorphic names is to identify individual Meerkats and their role within the group. Their activities are described in the present tense. The purpose is not to give a *history* of a group of animals but to give a *natural history* of a species. This may be disguised as a story about individual animals, but it is really a piece of popular ethology, which can be recast in present tense Aristotelian categoricals in the form: 'Mature female Meerkats raise their young in burrows underground' for example. Indeed, it is difficult to compose a history or a biography of an animal which is easily distinguishable from a natural history.

Take the biography of a particular squirrel who we may call Squirrel Nutkin. The record of his conception, birth, life and death can only be told against the background of the natural norms of squirrel life. If he forgets where he has hidden his nuts, then this unfortunate turn of events makes sense only in the context of the fact that squirrels in the main do not forget where they have buried their nuts. In fact, the story of Squirrel Nutkin will bear a striking resemblance in character to the stories told in 'Meerkat Manor'. It is impossible to write a biography of a wild animal that is not disguised natural history. The same is not the case of pets, domestic animals or wild animals kept in zoos and parks whose biographies describe largely their relations to their owners or keepers. One may think that the story (published as 'Where's master?') of King Edward VII's dog, Caesar, which walked behind the coffin at the royal funeral was more about the sentimentality of the courtiers than about the faithful dog. Animal biography can only be done at the cost either of an ultimately unconvincing

[14]In the case of extinct animals depending on context both the present and imperfect tenses can be used. Thus: '*Tarbosaurus bataar* is / was the Asiatic form of *Tyrannosaurus rex.'*

anthropomorphism or of telling the story from what is really a human point of view. Alternatively, it will be natural history fancifully elaborated.

Thompson argues that Aristotelian categoricals are irreducible to other forms of judgment. Thus, they cannot be reduced to statistical statements about what 'usually' happens. Only a tiny minority of baby turtles survive to return to their place of hatching to breed and reproduce but this does not contradict the statement that turtles return to the beach where they hatched to mate, lay their eggs and reproduce. Aristotelian categoricals include implicit (or actual*) ceteris paribus* clauses which define normality – what happens unless something intervenes to prevent the normal process from taking place. Such judgments are normative in the (non-statistical) sense that they describe the characteristics and activities of a good example of a particular species.

'Natural Design' and Natural Normativity

The normativity described by an Aristotelian categorical is not statistical. The fact that 'man', i.e. the species man has 32 (permanent) teeth does not imply that 32 teeth is the average number of teeth that men have. Indeed, because of immaturity and mishaps it is highly unlikely to be true that on average human beings have 32 teeth. The figure will be less than 32. How is it possible to claim as textbooks do that human beings have 32 teeth?[15] (Gray, 1918, Section 2a. 'The Mouth') It is not a matter of counting the number of teeth that people have and calculating the average, but it is a matter of human beings having, what we may call, the 'natural design' characteristic of having 32 teeth. A 'good specimen' of a human being - one which is mature, in good health, and in no way defective has 32 teeth. Another way of expressing this insight is to say that such statements are without quantification, they refer not to all men, nor to any particular man, but to the good specimen. (Foot, 2001, p28.)

It is even possible that there may be no extant examples of good specimens of the species in question. They may be all defective or none may even exist. We can imagine an endangered species of bird which exists only as a number of fertilised eggs – without any instantiation of a mature non-defective specimen. However, this does not affect the truth of Aristotelian

[15] "The **permanent teeth** are thirty-two in number: four incisors, two canines, four premolars, and six molars, in each jaw."

categoricals about the endangered species of bird and its life form. As we have seen, this is because the Aristotelian categorical describes 'natural design' features of the bird which permit judgements about whether a specimen is a good specimen or defective in some way. *The term 'natural design' is similar to that of 'natural selection'; neither a designer nor a selector is implied.*

How do we discover what are the 'natural design' characteristic of an animal or plant? What kind of investigation would we carry out? Suppose we wish to disprove the supposition that pigs can fly. It is evident what we would not do. We would not mount an expedition to the Amazon to investigate reports of flying pigs. Nor would we seek to examine a very large number of pigs in an attempt to find a falsifying example to counter the generalisation that pigs do not fly. In fact we would merely remind ourselves that pigs do not have wings and that wings are a necessary condition for flight. In the case of more plausible suppositions – like the question of whether chimpanzees can learn a language – extensive experiments and tests might be necessary to discover that they have no human like language abilities. But the process of discovery (or confirmation of a supposed fact like the inability of pigs to fly) is not one of seeking evidence to confirm or falsify a generalisation.

Further Aristotelian categoricals can be used to describe both incidental characteristics of life forms as well as those that may be definitive. Suppose we were to discover a herd of elephants which had no tails: we could legitimately describe them as a sub-species of elephant which just happened to be tail-less, in the same way that Manx cats which have no tails are still counted as cats.[16] But suppose in contrast we were to discover a species of animal which looked like elephants from a distance, but that close inspection revealed that they lacked both tusks and trunks. The animals of the latter group are a species that might be related to elephants (perhaps with a last common ancestor two million years ago) but are decidedly not elephants. Tails are incidental characteristics of elephants; trunks and tusks are definitive. The important point is that *both* the description of the tail-less elephant sub-species *and* the apparent elephants that have neither tusks nor trunks would both be couched in terms of Aristotelian categoricals.

[16] Manx cats have other characteristics not shared with other domestic cats. They have longer limbs and are given to digestive troubles, but their lack of tails is definitive.

4 The Form of the Aristotelian Categorical

Thompson explains how Aristotelian categoricals come in five different forms. (Thompson, 2004, p48ff) These are listed below and they describe how the different characteristics of human beings (or other animals or plants) can be put into the canonical forms. In what follows, 'X' is an individual, 'Y' is a species, 'Z' is an activity, 'W' is an attribute, characteristic or ability.

A) 'X is a Y'

B) 'Ys do Z' or 'Ys have W'

C) 'X is doing Z', or 'X has W'

D) 'X is defective (or sound) in some way'

E) 'X is well-formed relative to its species Y'

Only (B) is in the strict sense an Aristotelian categorical as it is both in the atemporal present tense and without quantification. Sentences (A), (C), (D) and (E) derive from the canonical statement (B) and refer to individuals which are described in terms of this categorical statement.

But the important point is that (A), (C), (D) and (E) all presuppose an Aristotelian categorical in the canonical form of (B). Note that under (B) Aristotelian categoricals are given in terms of both activities and attributes. Thus, we can say both that female bobcats give birth in the spring but also that their tails are two foot long. Of course, there are some attributes that imply the ability to act in certain ways – such as retractable claws and others which imply no particular activity – such as tail length.

We may also note that the form (D) 'X is defective (or sound) in some way' implies the existence of a variant of (B) 'Ys do Z in a defective way'. We will return to these variant forms below in analysing whether certain general statements by economists have the form of the Aristotelian categorical.

In addition to describing the characteristics and activities in simple terms, - like 'bobcats give birth in the spring' – statements in the 'Ys do Z' form can also be phrased in an abstract

form, such as 'whales are viviparous'. These statements are often to be found in textbooks which give the generally accepted results of scientific study or common observation.

In summary, Aristotelian categoricals are not statements of statistical regularity but are statements of natural normativity. (Foot, 2001, p28 & Thompson, 1995, 2004, 2008 A & 2008 B) In other words, they describe a normative characteristic of an animal or plant. Thus, as we saw, it is true to say that humans have 32 teeth. This unquantifiable statement in the simple (gnomic) present describes a standard for human beings – part of their 'design', 'bauplan', 'design specs', or one of their 'structural properties'.[17] [18] As we saw, it will be rare that a human being has 32 teeth because of immaturity, deformity, accidents or extractions, but that human beings have 32 teeth remains true despite the exceptions. It is a piece of human natural history.

5 Human Natural History

So far, we have discussed Aristotelian categoricals as in the main referring to the natural history of animals. While this seems a satisfactory form of description for the strictly biological characteristics of people and animals, it is not clear that it so for human intellectual powers and in particular Glock's three 'striking features'. We have so far left undefined what we mean by human natural history. As we saw Michael Thomson argues that we can only understand a biological process by describing the wider context of the activities and the 'life-form' of the species in question. This wider context forms the natural history of the creature. Thus 'natural history' has been defined variously as:

> "…the observation of the natural world, with the study of organisms and their linkages in the environment being central." (Tewksbury, *et al*., 2014, p300)

and as:

> "…descriptive ecology and ethology…" (Greene, 2005, p23)

While a 'scientific naturalist'[19] is:

[17] The phrase 'structural property' is Mary Midgley's. (Midgley, 1979, p205)
[18] Although there is apparent evidence of design it is an example of 'teleonomy' - design or function without a designer.
[19] The term 'scientific naturalist' here means student of natural history not an adherent of a philosophical doctrine.

> "…a person with a deep and broad familiarity with one or more groups of organisms or ecological communities , who can draw on… systematics, distribution, life histories, behavior and perhaps physiology and morphology…" (Arnold, 2003)

These descriptions of natural history and naturalists can apply to much of the study of human abilities and activities. But it is important to note that 'natural history' covers the 'ecology and ethology' of the organisms being studied. In the case of humans this must include their social lives. A natural history of ants would include as an important part their social lives, and this is also true of humans. And human societies include the three striking features that Glock identifies, language, cooperation and plasticity.

In the same way that beavers build dams and lodges, so humans participate in institutions, such as promising and making contracts, and collaborate in economic activities. We will focus particularly on economic activity, which seems to be included in Anscombe's 'departments of life'. It follows that there is no reason to think that they are not describable in terms of Aristotelian categoricals as just reflecting some of the abilities and activities of human beings – in other words part of their natural history. Economists have made significant discoveries about human abilities and activities which we will show can be couched in the form of Aristotelian categoricals. Still, there is a significant jump from a simple activity to complex human social activities which deserves further examination, but we will maintain that the logical form of the descriptive Aristotelian categorical, still holds good.

In what follows we set out three examples of the use of Aristotelian categoricals to describe the findings of economists both conventional and behavioural. The examples are intended to demonstrate the use of the logical form of the Aristotelian categorical in describing human economic natural history.

Although we interpret the statements of economists (classical and behavioural) as in the logical form of Aristotelian categoricals, this is not how they would characterise their descriptions and conclusions. Often, there is a tendency to interpret their discoveries as the result of a search for generalisations from which, given specified initial conditions, predictions can be made.

6 Aristotelian Categoricals in Macro-Economics

A revealing example of 'human economic natural history' can be given by the Nobel Prize winning economist, Milton Friedman, who was famous for his statement:

> "….that *inflation is always and everywhere a monetary phenomenon* in the sense that it is and can be produced only by a more rapid increase in the quantity of money than in output. However there are many different possible reasons for monetary growth, including gold discoveries, financing of government spending, and financing of private spending." (Friedman, 1970, p24.) (Emphasis in the original)

There are a number of important points to note. First the conclusion is the result of a programme of research which demonstrated that inflation was the result of monetary expansion in excess of output growth. Evidence for this theory was set out, for one of many possible examples, in his (and Anna Schwartz's) classic of economic history, *A Monetary History of the United States 1867-1960*. (Friedman & Schwartz, 1963) This analysis of nearly 100 years of US monetary history allowed them to conclude that changes in the quantity of money were both exogenous and determinative of economic activity and inflation. In other words, changes in the amount of money in circulation were the result of shifts in economic policy by the central bank (or the US Treasury) and not the result of spontaneous changes in the economy. And further that monetary expansion led to changes after a time lag in economic activity and in the rate of inflation.

Second this statement fulfils the requirements of the canonical Aristotelian categorical in its abstract form. In other words it is superficially similar to the form, 'whales are viviparous'. There are differences which are discussed below. It is in the present and is unquantified. 'Inflation is always and everywhere a monetary phenomenon' refers to inflations past, present and future and to no particular inflation. Unless there is some intervening factor increases in the money supply will cause inflation. In this respect it has the same form as 'bobcats give birth in the spring'.

But there are two important differences between Friedman's statement about inflation and the canonical positive form of the Aristotelian categorical – example (2) 'Ys do Z' or 'Ys have W' above. (See page 45) The first is that it describes a human institution rather than the activity of an animal or the characteristics of a plant or animal. But this difference, as we

have seen, may be more apparent than real. In the same way that bobcats give birth in the spring so human beings create and use money. The second difference is that Friedman's statement actually describes a defect as in example (D) 'X is defective in some way' above (page 45). Thus, a currency subject to inflation causes all sorts of inconveniences for its users. Unanticipated inflation makes it difficult to calculate future prices and to make satisfactory long-term contracts. There is also evidence that it can cause economic instability and sometimes a cycle of boom and bust.[20]

Friedman's statement amounts to the equivalent of the Aristotelian categorical form: 'If the summer comes early, then bobcats may mate earlier and produce their young in the late winter rather than in spring. When this happens few bobcat kittens survive'. This is a satisfactorily formed piece of bobcat natural history which describes what happens when things go wrong in a particular way. An Aristotelian categorical that describes the causes of the defect of inflation in the human use of money might take the form: 'Increases of money greater than the increase in output cause money to lose its value and its efficacy in exchange.'

Can we set out a positive Aristotelian categorical (as in example 1 above) about human monetary behaviour on which Friedman's analysis of inflation as a monetary defect is based? Such a positive Aristotelian categorical would be the seemingly trivial statement: 'Human beings use money to effect complex exchanges', but this statement has precisely the same form as 'bobcats give birth in the spring' - a piece of human natural history.[21]

7 Aristotelian Categoricals in Micro-Economics

It can be shown too that the truths revealed by micro-economic analysis have the same form as other natural historical statements. What is the subject matter of micro-economics? According to Robert Frank and Edward Cartwright in the introduction to their textbook, *Micro-economics and Behavior*, '…it entails the study of how people choose under scarcity.' (Frank & Cartwright, 2013, p3) Despite its generality this can be seen as giving natural

[20] It is part of current conventional wisdom that a low (and stable) rate of inflation is desirable. But if it is fully anticipated it loses its purported advantages and may as well be replaced by money stable in value.
[21] Another example of a macro-economic defect is the prevalence financial market booms and busts. It is telling that Robert Solow in his introduction to Robert Aliber and Charles Kindleberger's, *Manias, Panics and Crashes*, which describes the sorry story, he describes their review as 'natural history' and asserts that financial crises are a 'hardy perennial'. (Aliber & Kindleberger, 2015, pvii)

historical accounts of human behaviour. Just as bobcats mate in the spring so micro-economics describes the behaviour of human beings choosing between scarce resources in a market setting. In comparison with Friedman and Schwartz the conclusions are both more abstract and, as we shall see, refer to the effective operation of the economic system and not to a defect. Note again that the accounts are in the present tense and are unquantified.

Take a simple example from another textbook, Thomas Nechyba's *Microeconomics* (Nechyba, 2011). Nechyba describes the result of an analysis of entry and exit of firms from an industry in short and long-term equilibrium. He writes:

> "The most important insight to emerge from all this is that the short-term equilibrium emerges from the intersection of demand and supply *of existing firms* in the industry, while the long-term run equilibrium is entirely derived from the entry/exit decisions that drive long-run profits (of marginal firms) to zero." (Nechyba, 2011, p492) (Emphasis in the original)

The description of the behaviour of firms is in the simple present ('short-term equilibrium *emerges*') and the reference is to the firms is unquantified ('…the intersection of the demand and supply of existing firms'). It refers not to all firms nor to any one firm. And as bobcats mate in the spring, so the demand and supply of firms intersect. Of course, the latter statement is of greater abstraction, still at root economic analysis is a narrative art. In other words, Nechyba's statement explains what people do (in an economic context) and why they do it.

8 Aristotelian Categoricals in Behavioural Economics

Like the example of Milton Friedman's 'natural history' of inflation, most of the conclusions of behavioural economics refer to defects. This means that they are of the form that describes defects such as 'bobcats that produce their young in the early summer have fewer surviving kittens than those that give birth in the fall'. Of course, this version presupposes the standard positive form of 'bobcats give birth in the spring' against which performances can be judged.

Behavioural economics describes defects in human economic behaviour which are contrary to the assumption of rationality made by neo-classical economists. Behavioural economics has developed over the last fifty years by economists and psychologists and it has reached a

position that can perhaps be described as one of unstable equilibrium with neo-classical economics. In other words, while the conclusions of behavioural economics are accepted as often occurring exceptions, standard neo-classical economics is deemed to be usually correct. Thus *Quasi Rational Economics*, the title of a collection of papers by one of the deans of behavioural economics, Richard Thaler, suggests that *homo economicus* is a fiction and that in reality people are subject to weaknesses and deficits, yet they retain a strong element of rationality. (Thaler, 1994 / 1990) By rationality we mean primarily consistency in economic preferences and choices. Thus, a rational economic agent will follow the transitive law – if he prefers A to B and B to C then rationally he ought to prefer A to C - but often this will not be the case.

Take for example the method and conclusions of a paper by Richard Thaler and his colleague Eric J. Johnson in which they explore the discovery that gamblers in a casino treat losses differently depending on whether it is their 'own' money that they have lost or whether it is 'house' money that they have won. (Thaler & Johnson, 1994 / 1990) In other words, if I go to a casino and win on the first turn of the roulette wheel then I will be less risk averse in my subsequent play than I would be with money that I brought with me. This represents an irrationality – as once I have won my net worth has increased and it is as if I had just entered the casino with more money in my pocket. But this is not how people behave. It seems that people's choices depend on how the choices are presented to them rather than on the actual effect on their net worth. Does it really make sense for me to engage in larger or more wagers because of the *source* of my stake?

The tendency is for people to separate the results of gambles, or other economic choices or events, and evaluate them on whether they are gains or losses rather than integrating them and assessing them on their combined effect. And this different treatment of risk according to prior gambling wins is irrational.[22]

For our present purposes, what is significant about the conclusions of behavioural economics is that they are expressed in terms of Aristotelian categoricals. References are to 'people' and how they behave in certain settings – in some cases how they behave in

[22] It is irrational as a piece of economic decision making for it is the effect on net wealth which ought to count. In practice some people mat 'play with the house money' to prevent themselves being carried away and taking greater risks than they feel they ought.

experiments. The aim is to describe a facet of human nature and implicitly to establish norms. Behavioural economists seem naturally to fall into describing their conclusions and explanations as natural history. Thus, Frank and Cartwright give examples of economic behaviour illustrating principles of behavioural economics and each example is given the title 'Economic Naturalist'. (Frank & Cartwright, 2013)

Take two examples that show clearly how the conclusions of behavioural economics fall naturally into the form of the Aristotelian categorical. Richard Thaler and Carl Sunstein, (Thaler & Sunstein, 2009) describe two actual examples of defective thought and action which we will review:

> *"1) Obesity is contagious. If your best friends get fat, your risk of gaining weight goes up.*
>
> *"2) The academic effort of college students is influenced by their peers, so much that the random assignments of first-year students to dormitories or roommates can have big consequences for their grades and hence on future prospects. "* (Thaler & Sunstein, p59)

These two examples need analysis to demonstrate their underlying canonical form. Example 1 can be expressed as 'Humans are more likely to become fat if their peers are also obese.' And the first phrase of Example 2, 'The academic effort of college students is influenced by their peers' is actually in the canonical form.

It is evident that the examples do not refer to particular people and that they are in the present tense. Again, as we saw in the macroeconomic example above, they refer to defects. In our canonical formulation they involve (B) 'Ys do Z', and 'Ys have W'. Thus, in the two cases, the 'Ys' are respectively, 'people' and 'college students'. It is evident too that they are normative but by reference to negative rather than positive characteristics or activities. In other words, they are disguised statements of the form of (D) 'X is defective in some way'. Still as in the case of the earlier examples we can form a positive norm against which the defect can be compared. Thus 'good college students work hard despite the laziness of their roommates' would represent the positive norm implied by statement (2).

9 Conclusion

Our account of the conclusions of economists is different from the way economists often describe what they do. Friedman, for example, would have described his conclusion about inflation as the discovery of a generalisation about economic behaviour and as the result of an exercise in positive economics. Positive economics can be described as the formation of generalisations about human economic behaviour on which predictions can be based. Economics is seen as the creation of economic models and testing to see whether they can be used to make successful predictions. Positive economics has been subject to criticism. (Hollis, 2015 / 1977 and Hollis & Nell, 1975) but the belief in 'positive economics' (as a branch of the subject) still continues and can be found in textbooks.[23]

This chapter has shown how the form of the Aristotelian categorical proposed by Elizabeth Anscombe and elaborated by Michael Thompson can describe human nature in its economic facets. These take the form of statements of human natural history. In the same way that the character and life form of the bobcat are described in the Aristotelian categorical form so are the facts about human economic life. Such statements have this particular, non-reducible, form that describes human behaviour in macro, micro and behavioural economic settings. As we shall see in chapter 10 (and to a lesser extent in chapter 9) they provide implicit norms by which human behaviour can be assessed. Economics in its different branches is a normative science. In the next chapter we show how human nature can specify the virtues.

[23] For example Thomas Nechyba claims that: "The branch of economics that concerns itself primarily with … predictions is known as *positive* economics…"(Nechyba, 2011, p8)

Chapter 3 Human Nature Specifies the Virtues

1. Virtue Ethics Grounded in Human Nature

Why should facts about human nature have any significance for the ethics of the individual or the group? The aim of this chapter is to show that a description of human nature determines what makes for 'human flourishing' and that this in turn establishes norms against which we can judge what we ought to do individually and collectively. In later chapters we will attempt to show that human beings are naturally collaborative, combinatorial and productive and that this provides us with better defined norms for economic activity. What makes for 'human flourishing' specifies the virtues – and 'human flourishing' is determined (in large part) by natural instinctive human powers and activities. We take the virtues to be the traditional pagan or cardinal virtues: courage, prudence, temperance and justice.

But what do we mean by human flourishing? 'Human flourishing' is a translation of Aristotle's term 'eudaimonia' which means literally 'good spirit'. It is sometimes translated as 'well-being', 'doing well' or even 'happiness'. We will retain the conventional translation 'human flourishing' as it provides a contrast with 'happiness'. A man may be flourishing but he may not be happy and flourishing requires more than happiness and maybe sometimes less. The flourishing person has a full set of virtues, the practice of which may leave him unhappy in dire circumstances as Philippa Foot describes. (Foot, 2001, p96.) Further it does not mean 'doing well' – this reminds one of the description of the Puritans who went to America to do good and ended up doing well. It also suggests that human flourishing might describe the sleek gangster, the fascist boss or the business tycoon. (Williams, 2006 / 1985, p52) Human flourishing is also different from the results of opinion polls with respondents asked to assess their happiness. (Booth, 2012) One's soul may be good without being happy in this sense.

Aristotelian virtue ethics should be contrasted with those of Elizabeth Anscombe and Philippa Foot. Aristotle's analysis is based on the concept of human flourishing *per se* and are in a sense free-floating. His modern successors dig deeper and ground flourishing in

human nature which is the approach adopted here. Its great advantage is that new findings about human nature can have an effect on the character of existing virtues and may involve new ones. As we shall see in chapter 10, the discoveries of behavioural economics describe previously unrecognised cognitive deficits, and these lead to the creation of new virtues which correct the weaknesses newly exposed. This approach follows naturally from the Anscombe / Foot analysis of virtue ethics. Similarly, analysis of the human practice of entrepreneurship reveals the need for new virtues which correct and perfect the practice.

But there is a danger of circularity. We appear to define flourishing in terms of virtues when we are attempting to deduce the nature of the virtues from our understanding of flourishing. But the circularity can be avoided. We are not merely defining flourishing in terms of the virtues, rather we are separately describing them. This is because we cannot give an account of a flourishing human who is not in possession of a full set of the virtues. The sleek gangster and the fascist boss give the appearance of flourishing but beneath the surface there is vulgarity, cruelty and injustice.

2 How to Derive 'Ought' From 'Is'

An important strand in virtue ethics is the rejection of the empiricism which retains its influence in Anglo-American philosophy and was dominant at the time that Elizabeth Anscombe was writing 'Modern Moral Philosophy' in the late 1950s. It assumes that human beings are confronted by representations of reality (formerly known as 'sense-data') which are then 'interpreted' by the inquisitive subject as reflecting or representing 'external' reality. This doctrine has been subject to enthusiastic and successful criticism but it retains some currency in ethics. The reason for the continued support is that it lends backing to one of the supposed truths of philosophy, graced with the title 'Hume's Law', that it is impossible to drive 'ought' from 'is'.

One way of explaining and justifying virtue ethics, is based on a well-founded rejection of a sometimes naïve empiricism. The reason for this is that empiricism is forced to deny the existence of natural norms. It means that it cannot account for function (good or ill) in nature and for the legitimate use of such terms as 'good specimen' (of a species), 'health' or 'sickness', or even 'life' and 'death'. But surely, it might be argued if that is what empiricism

supports so be it. But this denial of normative function is like always using black and white photography when colour is available. To eschew colour is to accept an impoverished and indeed a false view of reality. It follows that philosophical qualms about a comprehensive understanding that includes the normative descriptions of animals, plants and humans are misplaced.

Hume's law has been criticised by Hilary Putnam. (Putnam, 2002) Putnam argued that 'non-cognitivists' who claimed that normative terms such as 'cruel' could be 'factored' (or broken up) into factual and attitudinal elements faced the difficulty that these elements are so entangled that they cannot be isolated without paradox. For example, according to Elizabeth Anderson it is possible to believe that: "…something is good and not be motivated to desire or to choose it." (Putnam, 2002, p43) Putnam sets out Bernard Williams' claim that for now we cannot avoid entanglement of fact and value but once an 'adequate conception of the world' and an 'adequate physics' have been developed it will be possible to disentangle fact and value. (Putnam, 2002, p40/41). Putnam expresses his disbelief that this development is feasible.

But 'Hume's law' is also unconvincing if only for the fact that in everyday circumstances we regularly draw ethical conclusions, what we ought to do, from facts about the world. Take the example that originated with A. N. Prior. From: 'He is a sea captain' it is legitimate to deduce: 'He ought to do whatever a sea captain ought to do'. (MacIntyre, 2011 / 1981, p68) Not only does this example demonstrate the legitimacy of a deduction in which the conclusion includes elements not contained in the antecedents but it shows how it is possible to move from 'is' to 'ought'.

One possible objection is that the term 'sea captain' implies an institution and that 'sea captain' contains hidden within it the norms appropriate to sea-captaincy. But take another example. It is legitimate to move from the fact that 'Tibbles is sick' to the conclusion that: 'We should take her to the vet'. Here there is no question of the sickness of the cat being a moral institution as it refers to the cat and its current state of ill health. It may be that the practice of taking sick animals to the vet can count as an institution but it is one which is triggered by the *sickness* of the cat.

How do facts about human beings explain and justify what we ought to do? One approach is to examine how those who have charge of animals learn how to make them flourish. The Eurasian Beaver (*castor fiber*) became extinct in Great Britain in the 18th century. And beginning in the current century attempts have been made to reintroduce (or 're-wild') beavers in Britain. The 're-wilders' have had to discover what makes for beaver flourishing in an environment where they have not existed for centuries. It is important to differentiate between re-wilders and zoo-keepers. It might be thought that the role of the zoo keeper and the re-wilder were the same in their judgements about the well-being of the animals for which they are responsible. But their conceptions of animal well-being although similar in some respects are different in others.

Zoo-keepers seek to keep their animals in good health for purposes of education, entertainment or conservation. But re-wilders seek to re-establish as close as possible the life form and ecology of the animals that are being re-established with only very limited concern for immediate human interests. The interest of the re-wilder in contrast to the zoo keeper is to re-establish the animal in its original habitat and with its original life-style. During the process the re-wilders may discover new facts about the flourishing of the animals. For example, they may only now exist in habitats very different from those where they are to be re-wilded. Through a process of observation and trial and error the re-wilders discover which types of wetland best suit the newly reintroduced beavers and best promote their flourishing.

It follows that the new information about what suits the beavers best will constrain how the re-wilders plan and execute their re-introduction. This may seem to be a trivial conclusion, but it is of importance for our argument for it suggests that new generic facts about human beings can have effects on what we ought to do. And further that the concept of human flourishing reflects not the interests and ideals of one group of people (the equivalent of the zoo keepers) but those of the people in question (the equivalent of the re-wilded beavers). The re-wilders indeed have interests of their own, for example the expression of a certain romanticism, but their aim is just to re-establish a flourishing population of the animals in an area where they had become extinct.

In the case of human beings it follows that the discovery of new facts (or the rediscovery of old ones which had been forgotten) about what makes for human flourishing can have consequences for determining what virtues we ought to practise and what vices we ought to eschew. In later chapters (and in chapter 10 in particular) we will review a number of significant discoveries about human nature and describe their effect on the related virtues and vices.

3 How Human Natural History Specifies the Virtues

Knowledge of human nature can tell us what it means for a human being to flourish. As we saw, this supplies us with the norm against which we can judge the actions of ourselves and others. It is easy enough to tell whether an animal is doing well, whether it is old, sick, injured or deformed. Similarly, we can make comparable judgements about human beings, whether they are sick or healthy and hence whether and to what degree they are practising the virtues appropriate to their way of life. Elizabeth Anscombe argues that the 'design specs' of humans include a full set of virtues as well as 32 teeth. (Anscombe, 1981 A / 1958, p38)

And further, as we saw above it is legitimate to move from norm to action. If Captain Puffin is a sea captain then he ought to steer the ship away from the rocks. If he looks the other way, gets drunk, or carelessly gives the wrong orders to the helmsman, then as captain of the ship he is acting viciously and he would be rightly held responsible for the results of his actions (even if the ship missed the rocks). It follows that natural norms have consequences for what we ought to do. This view has not gone unchallenged and we will discuss below several arguments intended to show that such natural norms either do not exist or they are insufficiently well defined to establish the virtues and perform the role proposed for them.[24]

As we saw, the statement that 'bobcats give birth in the spring', contains implicitly the idea of a natural defect. Thus, a bobcat that mates in the late summer is defective because its kittens will be born in the winter when their chances of survival may be slim. Natural defects in non-human animals should not be thought of as referring to human ends in relation to that animal but to the well-being of the animal itself. Similarly human ends are definitive for human well-being. The natural defects of a plant or an animal are that it may be diseased,

[24] I am grateful to Aart Van Gils for bringing these arguments to my attention.

immature, or missing organs or appendages and abilities. As we saw, Philippa Foot distinguishes between the Aristotelian categorical describing an arbitrary characteristic, such as a Blue Tit's particular head colour, and those describing the bright colours and impressive size of a male Peacock's tail. In the Blue Tit's case the colour of its head has no important function, whereas in the case of the peacock its tail is vital in the attraction of a mate. (See page 31)

A similar difficulty can be raised in the case of human beings. The philosopher, Bill Vallicella, has argued that the concept of the Aristotelian categorical is confused. Focussing on Philippa Foot's discussion in *Natural Goodness* (Foot, 2001), he asks whether a person without a leg should be counted as a 'bad person' in the same way that a deer missing a leg would be a 'bad deer'. (Vallicella, 2016) His mistake is to assume that the same facets of the life form of a deer and a human being are of equal significance. In the case of the deer the ability to run and escape from predators is vital to its well-being. In the case of human beings this is not the case. Although missing a leg is a serious defect, it is not one that damages the exercise of other characteristic human excellences not connected with walking or running. Walking and running are not as important in the life of a human being as they are in the life of a deer. It is the particularly human 'powers', 'faculties' and 'virtues' and their presence and absence that make for the 'good human being'. Thus rationality in the life of humans may play a role similar to that of the male peacock's tail and not to that of the colour of the Blue Tit's head.

Nonetheless there is a significant difference between the characteristics necessary for a good (non-human) animal and those necessary for a good human being. It is impossible to ascribe a moral virtue to any animal other than a human being and such virtues characterise human beings and their flourishing. This will create a difficulty (discussed in the next section) in defining what standard of rationality we should apply to human beings in assessing their virtuousness. Such difficulties do not apply in assessing whether a deer is a bad example of its kind because it is missing a leg.

Applying the concept of 'defect' we are able to move from a particular deer with a missing leg to the concept of a good specimen of a deer which does not have that imperfection. Thus, a good specimen of a human being would also be a good person. In other words, a

man who was avaricious and reckless would be defective in a similar way to a deer without a leg.

4 John McDowell's Criticism

John McDowell claims that the transition from fact to value cannot be made on the grounds that human nature might define and justify a multiplicity of different (and perhaps contradictory) virtues and actions. (McDowell, 2002 / 1995, p151ff) He gives the example of wolves that become rational and language using. And he imagines one particular wolf wondering why it should join in a hunting expedition, rather than stand aside and claim its share of the prey if the hunt is successful. Rationality, he argues, consists in the ability of the rational agent (in this case a wolf) to stand back from an activity and to question whether he should participate in it. McDowell then argues that an Aristotelian categorical of the form: 'Wolves hunt in packs' does not provide a good reason for the sceptical wolf not to be a free rider. But this argument fails on two grounds.

First, the Aristotelian categorical is normative - it supplies a standard of what counts as a good specimen of a wolf, or as a good wolf *simpliciter*. A wolf or a human being without a particular characteristic as described by an Aristotelian categorical would be defective to some degree or another. Imagine an ordinary, non-rational wolf that has the defect of not joining in hunts (maybe it was the runt of a litter) and instead of joining the pack in a hunt skulks around the den. We would have no hesitation in saying that such a wolf was not a good specimen of a wolf because of its deviant behaviour. But we could say the same of a rational wolf that, in refusing to join the hunt, its behaviour was deficient. The fact that its behaviour was the result of cowardice or selfishness rather than it being the runt of the litter makes no difference as to the existence of the defect.

The rational wolf, following Elizabeth Anscombe, would have a 'complete set of virtues as the norm' although these would be lupine rather than human. One can imagine a rational wolf deliberating, or 'standing aside' as McDowell suggests and considering what it should do. A good example of a rational wolf would take these normative lupine virtues into account in deciding. No doubt its virtues would be different from those of a human being

but then wolves, even rational wolves, will be different in well-being from humans.[25] Still it would deliberate either dismissing or accepting the relevant virtues. In the hunting case, these would be courage and justice and the wolf who 'step(ped) back' (as McDowell suggests a rational being would do) and considered what he ought to do would take these virtues into account in deciding on a course of action. (McDowell, 2002, p154) Indeed, a rational wolf that ignored these virtues in his decisions would be vicious and fail to reach the norm established by the Aristotelian categoricals that describes his species. McDowell's mistake is to fail to see that Aristotelian categoricals establish norms that it is vicious to disregard.

This leads us to McDowell's second mistake. Philippa Foot's distinguishes between Aristotelian categoricals that describe characteristics unimportant to the life of an animal and those that are important. Thus, as we saw above (page 31), the colour of a Blue Tit's head may be of little significance to the life of the garden bird, but the tail of a peacock may be vital to its well-being as it might not be able to find a mate without it. McDowell seems to assume that all Aristotelian categoricals have the same lack of significance as the colour of the head of Philippa Foot's Blue Tit when it comes to deliberating on a course of action. But this is not the case – at least some Aristotelian categoricals will describe characteristics of a human being (or a rational wolf) that only a flawed human (or rational wolf) would ignore. It is significant that McDowell focusses on Anscombe's example of the fact that humans have 32 teeth rather than the fact that they have a 'complete set of virtues' and this makes it easier for him to ignore the full normative character of many statements about human nature.

In the case of the rational wolf, plainly a reluctance to join the hunt is a defect comparable to the Peacock's tail rather than the colour of the Blue Tit's head. One difficulty with Thompson's description of Aristotelian categoricals is that he uses as his main example the bobcat (as if in a natural history TV programme of the 1970s) in his exploration of the logic

[25] One way of illustrating this point is an example from fiction. CS Lewis's science fiction novel, *Out of the Silent Planet*, supposes that on Mars there are three races of rational animals which are different in physical and life form. Each has a natural specialism which is instinctive. Thus, the *Sorns* are natural intellectuals and study astronomy, while the *Pfifltriggi* specialise in mining and metal working. The *Hrossa* in contrast are farmers who hunt the terrifying *Knakra* as a test of courage. They live a simple life without the complications of intellectual pursuits or embryo industrialism. The different life form and instincts of these rational species would give them different (but related) sets of virtues and vices. (Lewis, 1973 / 1938)

of the form of judgement. While this example serves this purpose well, it makes it easy to ignore the form's full normative potential in the case of human beings. This can be re-stated baldly - a good example of a human being has a full set of virtues. In other words, a good example of a human being will be a good person – and as such provide the norm against which other humans can be judged.

5 Bernard William's Criticism

Bernard Williams describes ethical naturalism as "…founding ethics on considerations of human nature, in some way that goes beyond merely responding to the limits, biological or other, on what human beings are able to do." "This is", he writes, "…the project of thinking out from what human beings are like, how they might best and most appropriately live". He accepts that it is attractive to 'some philosophers', because it does not appear to require any 'supernatural warrant' and yet it is "…less arbitrary or relativistic than other secular ways of looking at the content of morality. It seems to offer some promise of being both well founded and content-full." (Williams, 1995, p109.)

Williams rejects ethical naturalism on three grounds. First he claims that given the evolutionary history of the emergence of human beings, we are "…to some degree a mess and that the rapid and immense development of symbolic and cultural capacities has left humans as beings for which no form of life is likely to prove entirely satisfactory, either individually or socially." (Williams, 1995, p109)

The flaw in Williams's argument is revealed in his use of the normative phrases 'to some degree a mess' and 'entirely satisfactory'. And these, no doubt accurate descriptions of human beings, suggest that it is possible to discern norms of what makes for human flourishing, just as sick cats and three-legged deer make it possible discover what good healthy specimens of cats and deer are like – and in the case of the pet cat what we ought to do about it.

One can also imagine a case where many 'messed up' men mistreated women as the result of a supposed rape gene (as described in chapter 1, page 23). If this trait were prevalent it would not leave us puzzling over what we ought to do. Evidently such practices would not make for human flourishing either for the men or the women concerned. As we suggested in chapter 1 the solution is stern punishment for rapists, education of young men and boys

on the evils of the mistreatment of women and the promotion and formation of good habits amongst those susceptible. Indeed, the fact that human nature is 'to some degree a mess' reinforces the argument that humans need to practise the virtues to mitigate the effects of their messed-up nature.

Bernard Williams's second objection to human nature as a source of norms is that the idea originated with Aristotle and that his essentially teleological view of nature has become impossible to accept since the advent of Darwinism. (Williams, 2006, p50 & 1995, p109ff) Darwinism, Williams argues, makes it implausible to ascribe teleology, purpose or 'nisus' (the term he uses) to human nature. In turn, this would make it impossible to extract norms from a description of human nature. While Darwinism asserts that intelligent design in nature does not explain the emergence and variation of species, it makes no claims about the existence (or origin) of norms relating to plant and animal well-being. And it does not deny that animals and human beings have purposes and that the latter deliberate over their actions. In other words, Darwinism cannot undermine normative judgements about plant, animal and human flourishing.[26]

Further the rejection of a purpose, teleology or a 'nisus' in the emergence and variation of life forms does not mean that we cannot legitimately ascribe purpose, function and norms to individual creatures. While we cannot reasonably ascribe purposes to plants, we can ascribe them to the animals and human beings even if we accept the Darwinian explanation of the variation of species. If Bernard Williams were right then he would be forced into a scepticism about the coherence of numerous 'teleological' concepts such as health, sickness, doing well, or indeed any attribute ascribed to a human being (or animal) that is or presupposes a norm against which its character or behaviour can be assessed. This seems to a very substantial conclusion to draw from Darwinian evolution.

Williams raises a third difficulty in, *Ethics and the limits of philosophy*. He argues that an Aristotelian view of human nature implies a harmony of forms of life that does not exist. He writes:

[26] The Baldwin effect which is accepted as an evolutionary process by neo-Darwinians suggests that human decisions can produce significant inherited traits. Lactose persistence which is the result of the adoption of cattle herding is an example.

> "Our present understanding gives us no reason to expect that ethical dispositions can be fully harmonised with other cultural and personal aspirations that have as good a claim to represent human development." (Williams, 2006, p59)

Elsewhere Bernard Williams gives an example based on the artist Paul Gauguin who left his family to live on a South Sea island to pursue his life as an artist. (Williams, 1981, p22ff) But Williams appears not to see the possibility that by the proper exercise of the virtues of justice, temperance and prudence he might have been able to harmonise his 'ethical dispositions' with his 'cultural and personal aspirations'.

6 Conclusion: Tracing the Path from Nature to Norm

In this chapter we have sought to demonstrate that facts about human nature gives us grounds for discerning what makes for human flourishing and that these facts also determine their respective virtues. The facts about human nature can be (and usually are) expressed in the form of Aristotelian categoricals. And these natural historical judgements are bearers of norms against which we can assess the characteristic abilities and activities of human beings. They determine what makes for human flourishing and allow us to judge whether a human being is doing well and what virtues it needs to practise and what vices it needs to eschew. A good specimen of a human being will be a good person with a full set of virtues that he or she practises.

The facts about human nature may be well or badly known and, if known, they may not be currently appreciated, or the appropriate conclusions drawn about their implications for morality. What is more, completely new facts about human beings, (or facts known but unappreciated or forgotten), may have significant consequences for our conception of human flourishing and hence for what we ought to do. We saw that in the process of re-wilding beavers, new facts about how the animals could be helped to flourish in environments where they had not lived for many decades could lead to improvements in the practice of re-wilding. New facts about humans, their abilities and natural deficiencies will lead to improvements in the way we treat ourselves and others.

In Part 2 we will show that human beings are naturally collaborative, and that this instinct necessarily involves contract and property. Furthermore, these powers have an infinitary character and are expressed in specialisation and the division of labour. They are productive

of economic welfare and we explain how welfare is an important part of human flourishing. In Part 3 we will explore how these facts about human nature have consequences for the characteristic virtues of collaboration and exchange.

PART 2: HUMAN NATURE: CONTRACT, PROPERTY, SPECIALISATION AND WELFARE

Chapter 4 Human Nature: Collaborative and Contractual

1. Introduction

In part 1 we first explored and then justified the concept of human nature. We then showed how human nature determines the character of human flourishing and consequently the nature of the virtues. In this chapter we will show that human beings are naturally collaborative and that they uniquely collaborate through contract. In chapter 5 we will show that human planning and collaboration require property.

2. Adam Smith, Collaboration and Contract

But first we must explore what is meant by collaboration. To this end we will begin by reviewing Adam Smith's analysis of co-operation in Book 1 of the *Wealth of Nations.*[27] There are a number of reasons for this.

First Smith makes an important distinction between collaboration and contract which Is essential to our argument.[28] Human beings alone make contracts and this makes the division of labour possible. In other words only human beings can engage in economic activity and promote their economic welfare and their flourishing in this way. Second the structure of Smith's argument follows that of our own and allows us to use Smith's account as scaffolding for the analysis of concepts that are important for the argument.

In his discussion of the division of labour[29], Smith argues that it is not the result of any human foresight that planned for the "…general opulence to which it gives occasion". (Smith 1981 / 1776, p25). It is rather the "...necessary, though very slow and gradual consequence of a certain propensity of human nature which has in view no such extensive utility". (Smith, 1981 / 1776, p25) The propensity is to "truck, barter, and exchange one thing for another". Smith then queries whether this propensity is "…one of those original principles in human nature, of which no further account can be given; or whether, as seems more probable, it be the necessary consequence of the faculties of reason and speech…" Smith leaves this

[27] All references are to the bicentennial Glasgow Edition.
[28] We use the terms 'collaborate' and 'co-operate' as synonymous. But both are to be distinguished from 'contract'. All contracts are examples of collaboration, but not all collaborations are contracts.
[29] The division of labour is discussed in chapter 7.

question open "…it belongs not to our present subject to enquire." (Smith, 1981 / 1776, p25)

Smith then emphasises that contract is known only amongst human beings and no other animals. "It is common to all men, and to be found in no other race of animals, which seem to know neither this nor any other species of contracts." (Smith, 1981 / 1776, p25) Human beings are unique because they, alone of animals, make contracts. As we saw in chapter 1 (page 33) this statement has been challenged but reformulated it still stands as a true description of one of the 'striking features' characteristic of human beings.

Smith then gives the example of two greyhounds chasing the same hare. They may act in concert but they have no contract. He then discusses the means by which animals and men get what they want from their fellows. In the case of animals, they fawn on each other (and on their human masters). "A puppy fawns upon its dam, and a spaniel endeavours by a thousand attractions to engage the attention of its master who is at dinner, when it wants to be fed by him." (Smith, 1981 / 1776, p26) People, Smith argues, will also use 'every servile and fawning attention' to get what they want, but such methods are inefficient, and the usual method is to appeal to the self-interest of other people rather than to their benevolence. This leads Smith to his famous aphorism:

> "It is not from the benevolence of the butcher, the brewer or the baker, that we expect our dinner but from their regard to their own interest." (Smith, 1981 / 1776, p26/27)

He comments that even beggars obtain part of their living by using the money that others give them to buy their 'occasional wants'. Smith then contrasts human and animal collaboration and argues that though dogs have talents even more diverse than those of human beings, mastiffs, greyhounds, spaniels or sheep dogs, they "…are of scarce any use to one another". (Smith, 1981 / 1776, p30) "The strength of the mastiff is not, in the least, supported by the swiftness of the greyhound, or by the sagacity of the spaniel, or by the docility of the shepherd's dog." and this is because they lack the "…power or disposition to barter and exchange". As a result each animal is "…obliged to support and defend itself, separately and independently and derives no sort of advantage from that variety of talents with which nature has distinguished its fellows. (Smith, 1981 / 1776, p30)

3. Collaboration: Human and Animal

But how are we to distinguish between collaboration and contract? All contracts are collaborative but not all collaborations are contractual. Animals and human beings obtain much of what they want by collaboration. As we saw Smith describes animals and people as 'fawning' on one another to obtain what they want. Thus, a puppy will fawn on its 'dam' for food and a spaniel will seek to gain the attention of its master at table. Similarly, people will also fawn on others to obtain from them what they want.

Some writers have sought to analyse human collaboration as similar in principle to that of monkeys. They differentiate human from chimpanzee collaboration as deriving from differences in attention. (Brinck & Gardenfors, 2003, Boesch & Boesch 1989, Boesch & Boesch-Achermann, 2000) Thus chimp collaboration in hunting has been divided into four different types.

1) *The Similarity Hunt*- where the hunters all perform the same actions without co-ordination.
2) *The Synchrony Hun*t - where hunters attempt to co-ordinate their similar movements but not necessarily successfully.
3) *The Co-ordination Hunt* - where the animals successfully co-ordinate their similar actions.
4) *The Collaborative Hunt* – where the hunters perform different complimentary roles directed towards their prey. (Brink & Gardenfors, 2003, p2)

But there is a difficulty. It is evident that in these examples animals collaborate with each other to bring about common ends. Thus, as we have seen, Smith describes two grey hounds collaborating to 'run down' a hare.[30] This is assumed to be the case in many modern ethnographic studies of animal behaviour and it is supposed to be the case in human collaboration too. For example, Ingar Brinck and Peter Gardenfors begin their analysis of monkey and human co-operation with a statement that shared ends are the common factor which delineates both animal and human co-operation. They write:

[30] Animal collaboration is not limited to hunting. For example, when standing in the shade on summer's day horses will stand head to tail and the whisking of the tails will keep the flies from the face of the other.

> "Human beings as well as animals co-operate in order to reach common goals." (Brinck & Gardenfors, 2003, p1)

But this is not true even of many forms of animal co-operation that are done for different ends. Thus one monkey will groom another with a view to some advantage or other relating to, reproduction, food, or to engage in reciprocal grooming. Here the parties to the collaboration are seeking different ends, for the groomer, who fawns (to use Smith's term) on the one groomed, seeks an advantage in exchange for the fawning.

But how can such a 'fawning' co-operation in which the parties have different ends be distinguished from contract? As we have seen Adam Smith's seeks to do this by reason of the benevolence of the one fawned on. But while this may be the true of some cases it can scarcely be said of all. We may well explain the gift to the beggar or even the dam feeding her puppy as the result of benevolence. But if a monkey responds to grooming by giving a larger share of available food to the groomer then this seems hardly ascribable to 'benevolence'. It seems that Smith's distinction between co-operation, which is distinguished by benevolence, and contract based on self-interest is unsatisfactory. It follows that some forms of co-operation are not dependent on benevolence, nor can it be said that the distinction lies in the difference in ends of the two parties. Some forms of co-operation involved different ends while other involve a shared end (as in hunting).

How then are we to distinguish between co-operation and contracting? The solution is to be found in the type of relationship. A contractual relationship will involve at least two parties who exchange one good or service for another. In a contract, the relationship is essentially equal - the provision of the good or service by one party is dependent on the receipt of a different good or service by the other.[31] Note the aims of the parties may be different but are not necessarily so. It is possible to imagine a contract where the parties serve the same end.

Here we can turn to an example of a simple purchase in a corner shop. Both parties solicit the services of the other. The shopkeeper wants the money and I want the chocolate bar. But this relationship is to be distinguished from 'fawning', which is essentially one-sided.

[31] Of course, some contracts are unequal as will be discussed in chapters 9 and 10.

Here the suppliant carries out the service in the hope or expectation of receiving the good that he seeks as in the examples of the grooming monkeys and the appeals of street people.

4. Contracts, Promises and Normative Expectations

Having made this distinction between 'fawning' and contract we can now focus on a further distinctive feature of human collaboration. This is that contracts (both formal and informal) are a form of promising that have been described as involving 'normative expectations'[32]. Contracts differ from simple promising in being mutual promises with at least two parties engaged. The normative character of contracting is evident in Adam Smith's statement that: "Nobody ever saw ever saw a dog make a *fair and deliberate* exchange of one bone for another with another dog." (Emphasis added) (Smith, 1981 / 1776, p26) Here the operative terms are 'fair and deliberate'. In other words, exchange between humans is normative. The contract must meet standards of justice and it must be the result of deliberation. Nobody makes a contract, or even buys a cup of coffee, unless there is some minimal deliberation and mutually agreed expectations – that the hot drink is coffee and the coin not a forgery.

Taking these two characteristics of contract in order. First 'fairness' implies that the contract (as before both formal and informal) is not the result of some manipulation or subject to a gross one-sided deficiency where, for example, one party might have inside knowledge. Smith was thinking evidently of one dog snatching a bone from another dog or a lesser form of one-sided manipulation. Thus, in a fair exchange the buyer of shares does not hold advantageous market sensitive information which the seller does not have. Indeed, the principle can be extended to the exploitation of all the defects that have been revealed by behavioural economics. And these we will discuss in chapter 10.

Secondly the contract must be subject to deliberation. Here Smith appears to have anticipated a discussion by Elizabeth Anscombe of promises when she explains that promises (and by implication contracts) are never done unconsciously and that a promise made without consent could not be a promise. (Anscombe 1981 C / 1969, p13) Similarly, a

[32] I owe this phrase to Professor H-J. Glock who answered the question: "Would you agree with me that Adam Smith had it right in saying that human societies were different from animal because of the existence of contract?" with the reply (in so many words): "Yes – but not formal contracts but 'normative expectations'" (*Reading University*: January 23, 2018.) In turn he may have adopted the phrase from Martin Hollis. (Hollis, 1998, p15)

contract requires both understanding of its terms and 'uptake' - the consent of all the engaged parties.

5. The Power to Contract: An Aristotelian Necessity

What is the significance of promising and contracting in human life? We have seen that Adam Smith's discussion of the division of labour suggests that contracts are essential to sustain and promote economic welfare. But can we be more specific as to the role of contracts within the context of virtue ethics? In other words, how does contracting contribute to human flourishing. In her discussion of promising Elizabeth Anscombe describes its function as 'binding the wills' of the parties to the promise or contract. (Anscombe, 1981 C / 1969 & 1981 E / 1978) Thus, promising (and contracting) limit the potential range of action of the maker of the promise and requires its recognition by the one to whom the promise is made. This, she argues, is the cause of human good. It also applies *pari passu* to contracts where uptake and obligation are mutual.

It is worth considering just how the institution of promising causes 'some good'. (Anscombe, 1981 D / 1978, p139) By enabling exchange promising creates benefits for all parties to the exchange. They may be consumers or producers, or just Jack and Jill. But first we need to analyse why human beings should engage in the transactions that flow from the exercise of their power to make contracts. Why should contract and exchange be productive of well-being?[33]

The answer is that, given certain standard conditions, a justly made contract between two or more parties leaves all parties to the contract better off than they would be otherwise. The parties would not have made the bargain unless each benefited. The agreement creates a slice of welfare which did not exist before – a genuine creation of value *ex nihilo*. This truth can be explained very simply. If Jack has an orange and Jill has an apple and Jill prefers oranges to apples and Jack prefers apples to oranges, then an exchange leaves both better off. The standard conditions include information symmetry and that all parties are fully informed of the nature of the bargain and of the nature of the goods or services being exchanged.[34] Such transactions also have the characteristic of Pareto Optimality. In other

[33] The significance of property is discussed in the chapter 5.
[34] In chapter 10 we discuss other transaction defects that reduce both the efficiency of the transaction and the new value created *ex nihilo*.

words the transaction between Jack and Jill makes at least one person (in this case two people) better off and nobody worse off. Pareto Optimality has been criticised. Thus, Hilary Putnam has claimed that the defeat of Hitler made at least one person worse off, but was nonetheless desirable. (Putnam, 2002, p54/55) But if the test of Pareto Optimality is limited to contracts, the criticism fails and given our assumption that the exchange is just and neither party is significantly disadvantaged the test of Pareto Optimality in exchange settings seems well-founded.[35]

Anscombe's discussion of promising takes place in the context of what may be termed the problem of 'bare wrong doing' where the breach of a promise does no actual harm. David Owens takes Philippa Foot's example of a Russian explorer who promised a native Malayan that he would not photograph him because of the former's superstitious beliefs. The explorer decided to keep his promise despite the fact that since the Malayan was sleeping he could never have known that his photograph was being taken and that it would have been of considerable ethnographic interest. (Owens, 2012, p125/126 & Foot, 2001, pp47-50) In the context of virtue ethics we can supply a justification for keeping promises in all such circumstances. The explorer might feel that he did not want to be the sort of person who broke his promises. A good man would not renege on such a commitment whatever the circumstances. The test of 'What a good man would do' is telling as it focusses on the character of the agent and shows that it is the nature of the person rather than the act that counts. Zwolinski and Schmidtz use an example of T. E. Hill to illustrate the point. Hill asked of a man who cut down a beautiful old avocado tree 'What sort of a person would do a thing like that?' Hill's answer is that he would be insensitive and lack the virtue of 'environmental humility'. (Zwolinski & Schmidtz, 2013, p224 and Hill, 2005) It follows that if someone fails the test and does what a good man would not do, we are entitled to ask what else might he do on his estimate of the consequences. A second but lesser justification for keeping the promise is that it could strengthen the habitual practice of promise keeping.

[35] In some non-western societies there are ways of 'binding the will of others' in economic activity (broadly defined) other than contract. These include such practices as potlach where obligations are created by gift giving. (Mauss, 2020 / 1925) We have focussed on contract as this practice is dominant in economic transactions worldwide, whereas potlach and similar practices are relatively little practised and lack Pareto efficiency. In other words, the donor creates an obligation which the recipient *cannot but accept*.

Since much good results from the institution of promising and contracting, we do not do well if we break our promises and default on our contracts. It is easy to imagine the damage done to both economic welfare and human flourishing if the institutions of promising and contracting did not exist. Without the ability to bind the wills of others any planning of future action would be difficult. And it would be hard for us to specialise in any one activity and to draw all the benefits that it brings (as will be reviewed in chapter 7). This allowed Anscombe to argue that the keeping of promises (and by implication contracts) amounted to what she called an 'Aristotelian necessity'. She quotes what she calls Aristotle's 'pregnant' remark in the *Metaphysics* that one sense of 'necessary' "…is *that without which some good will not be obtained or some evil averted*". (Anscombe, 1981 D / 1978, p139) (Emphasis in the original).

6 Contract Theory: Classical and Relational

Contract needs a precise definition because it is a complex concept. We will differentiate between exchanges, agreements and contracts. What follows depends much on the analysis of the legal theorists Ian MacNeil (MacNeil, 1974 & 2010 / 2001) and Stewart Macaulay (Macaulay, 1963). While we will follow their analysis in the main, we will reject some details and adapt their views to our particular purpose. These two writers have developed what has become known as the relational theory of contract. In his famous 1974 paper, 'The Many Futures of Contracts', MacNeil discusses what he calls, 'The Primal Roots of Contract'. (MacNeil, 1974, p696ff) According to MacNeil these are (1) specialisation, (2) a sense of choice, (3) 'consciousness of past, present and future', and (4) the 'social matrix'.

1) Specialisation

MacNeil points out that specialisation is an inherent part of all types of contracting or the creation of 'normative expectations'. To contract just is to specialise, and specialisation is just the division of labour. If I 'bind' my 'will' with a promise I limit the range of things that I can do and, in the process, I create an opportunity cost. Similarly, if I 'bind' the 'will' of others by an agreement or a contract, I limit the range of the possible actions of my counterparty.

It follows that the association between contracting and specialisation is not fortuitous or accidental. The purpose of all contracts is to specialise. The only reason that I make an

agreement is that I want to specialise and that is also true of the person with whom I contract. Indeed I cannot make an agreement without specialising.

MacNeil points out that numerous species of animals, notably those that live in communities, specialise and carry out a form of the division of labour. (MacNeil, 1974, p697ff.) This can take the form of 'reproductive differentiation' and in differences in function, for example in the case of social insects. MacNeil also claims that this is seen in vertebrates where it is the result of 'personal recognition amongst members of a group' and is found not only amongst primates but also among hunting dogs. But here it needs emphasis that the division of labour amongst human beings is brought about by the unique human power of creating 'normative expectations' and 'binding the will of others'. While MacNeil does not make this point it is implicit in what he says. He emphasises rather that the division of labour depends on exchange "…since only exchange can achieve the distribution of rewards necessary to sustain specialisation." (MacNeil, 1974, p696/697) MacNeil argues that an exchange may not be bilateral and that it may form part of a complex network. He points out that the buyer of a car ultimately rewards the car workers in the factory.

2) Freedom

MacNeil's next primal root of contract is 'Freedom' or what he refers to as a 'sense of freedom'. It is here that the power to create normative expectations appears. The creation of such obligations involves freedom to 'elect', as MacNeil puts it, "…among a range of behaviors". (MacNeil, 1974, p701). MacNeil focusses on the appearance of freedom rather than its reality but argues that coercive agreements, such as an 'armed hold-up', should be counted as contractual as there is an element of coercion in all contracts. As he puts it "…such factors as unequal power, unequal knowledge, and other unequal circumstances lend an element of pressure to virtually every contract." (MacNeil, 1974, p704) Even absence of knowledge of alternative courses of action can count as coercion. Even slavery, he claims, can have contractual elements. His point is that some relationships have only very limited character as contracts, but still they point towards contract in its full and proper sense.

3) Consciousness of Past, Present and Future

MacNeil claims that while there are parallels between humans and animals in planning for the future, it is only humans whose "…massive awareness of past, present and future was and is the quantum jump between humanity and even the most intelligent of other animals". (MacNeil, 1974, p706) MacNeil explains that tool use is forward looking and may, he thinks, have originated amongst our evolutionary predecessors. He argues that until "…man (or his forebears) developed this perception of the continuum of past present and future, it was impossible consciously to project exchange into the future". (MacNeil, 1974, p710)

4) The Social Matrix

Finally, MacNeil insists that contract presupposes what he describes as a social matrix. By this MacNeil means that normative expectations are carried out within a social context which primarily includes language. He writes:

> "What does require emphasis, however, is the social nature of language; its availability for use in contractual activity is a *sine qua non* contribution of the social matrix to contract. Only with the development of language and the social patterns it presupposes and develops could the full human capacities for specialisation of labor (and hence exchange), exercise of choice, and awareness of the future be realized." (MacNeil, 1974, p712)

Thus MacNeil links together the four ideas of: specialisation, choice, future expectations and language. But it seems plausible to argue that they can be reduced to two facets of the one phenomenon. Any choice implies specialisation as it involves an opportunity cost. If I choose to do this then I cannot do that. Similarly, any choice implies an understanding of the past, present and future – choice presupposes the future. We may add too that it involves an attempt to secure certainty (or a lesser degree of ignorance) about the future actions of our collaborators. Insofar as a contract achieves certainty, it means that I can rely on other people to do things in a predictable fashion. This greatly eases my ability to bring my plans to fruition. The effect is to make human behaviour lawlike. In the same way that I can rely on the law of gravity to obtain in making plans for the future, so I can rely on my agreements with other people to ensure that their behaviour is predictable. Without agreements I have no means of knowing whether and to what degree they may interfere with my plans – taking my property without my permission is just one example.

The significance of language is that it allows us to specify as precisely as we can our obligations as well as those of our collaborators. It allows us to bind the will of others with precision. Without language, exchange is limited to the very simple discrete exchanges of the Capuchin monkeys whose 'transactions' were described in chapter 1 (page 32ff).

7 Contract and Negotiation

But normative expectations come in a multiplicity of forms. MacNeil begins his analysis with a description of 'discrete exchange' – the simple purchase of gasoline at a 'gas station' – and extends it to complex long-term contracts. This 'relational analysis' sees contract as the projection of exchange into the future. (MacNeil, 1974, p712/713) Such future commitments MacNeil defines as: "Present communication of a commitment to future engagement in a specified reciprocal measured exchange." (MacNeil 1974, p715) He contrasts these forward commitments and relationships with simple transactions and gives the example of 'a marriage of the more traditional kind' as an example of a relational commitment. (MacNeil, 1974, p720)

But relational contracts are subject to ambiguity. It may be that the parties to a contract have different views of its meaning. As MacNeil emphasises, communications expressed are not necessarily received and contracts are fragmentary focussing on particular aspects of the contractual situation. As he says, "…a promise made and a promise heard are two different things." (MacNeil, 1974, p728)

It is also the case that promises made are not necessarily always meant to be kept come what may. Suppose circumstances change from those obtaining at the time of the making of the bargain, then if one party reneges on the contract then the response of both parties may be to renegotiate. And this or something like it may have been anticipated at the time the bargain was struck. The subsequent step for the injured party may not be to seek legal remedies but to adjust the contract. There may be two reasons for this. First, the remedies may be unsatisfactory. Specific performance may be impossible and compensation inadequate. Second, the injured party may seek to maintain a long-term business relationship with the defaulting counter-party. The result will be often that the parties renegotiate. Indeed, this will happen very often. A paper by Stewart Macaulay demonstrated why this is indeed the case. (Macaulay, 1963) Macaulay demonstrated that

contracts are not always completed or enforced and that they are often renegotiated. Businesses will often dispense with reliance on formal contracts because they believe that commitments should be honoured or that businesses should stand behind their products. But the most important non-legal sanction is that parties to the contract will often want to "…continue successfully in business and will avoid conduct which might interfere with attaining this goal." (Macaulay, 1963, p63) They fear that by enforcement they risk their business relationship with the other party and damage their reputation more generally. Further, businesses may seek to avoid detailed contracts as these may get in the way of "…creating good exchange relationships between business units". (Macaulay, 1963, p64) Macaulay wonders why detailed contracts are ever agreed. His answer is that they are used where the advantages outweigh the costs and where specific difficulties are anticipated. He gives the example of an airline seeking to ensure that any liability resulting from a defective airframe lies with the manufacturer and not with itself. (Macaulay, 1963, p65)

Obligations Created and Acquired

Cuthbert Heath was an early 20th century Lloyd's insurance underwriter who is known for his actions following the San Francisco earthquake of 1906. Like many other insurers he wrote a large amount of earthquake insurance in San Francisco. In essence, the policies said that if your house was knocked over by an earthquake then the insurers would pay. But in the 1906 earthquake most of the damage was done by the fires following the quake. The policy holders, naturally perhaps, tried to claim under their policies. But many underwriters, including the local American insurance companies, refused to pay on the grounds that the policies did not cover fire damage. And indeed, they were right. (Brown, 1993, p95)

But Heath famously instructed his San Francisco agent to pay in cases where the damage was caused by 'fire following' the quake. Indeed, all earthquake policies now include coverage for damage caused by 'fire following'. And it is arguable that Heath (and the other insurers) had an obligation to pay his policy holders DESPITE the explicit policy terms. Now part of insurance mythology, Heath's action had the effect of establishing in America that Lloyd's policies could be relied upon to pay and as a result very profitable business came to the market which might otherwise have gone elsewhere. This suggests that his action was orientated partly towards his future business rather than from the attachment of an implicit obligation.

But this move can be countered. We have only to imagine a possible world that was exactly the same as that of Cuthbert Heath's except that we imagine a virtuous Ethelbert Heath who gave instruction to his agents to pay while in the last stages of a terminal illness and did not stand to gain by any additional business. The point of this example is that normativity can be generated by engagement in an activity despite the explicit exclusion of the obligation in the joint enterprise – the buying and selling of insurance policies for example.

The example of the real Cuthbert (and the fictional Ethelbert) Heath confirm the truth of the relational understanding of contracts. The letter of the business contract has its value in helping to avoid foreseeable disputes. But in cases where the possibility of dispute has not been foreseen even the explicit terms of the contract may have to be put aside where an unanticipated obligation arises.

8 Conclusion

In this chapter we have examined some concepts important to understanding the relationship between human flourishing and welfare and its source in the power to make contracts. This has led us to explore the role of promising and contracting as uniquely human institutions. They make possible both human flourishing *simpliciter* and the division of labour which we will analyse in chapter 7. The latter both sustains and promotes economic welfare because of its ability to increase productivity. Despite (an apparent counter–example discussed in chapter 1, (page 32ff) contracting is indeed a unique human ability which is both central to human life and helps define a good human being. A person who cannot make contracts is severely handicapped and a person who 'always lets you down' is consequently vicious.[36] As we shall see in chapter 9 good-faith negotiation is an important economic virtue.

But contracts cover a multiplicity of different sorts of relationships, only a few of which can be designated contracts proper. These range from the simplest of agreements to complex long-term business contracts. Contracts proper are distinguished by the possibility of enforcement. But often contracts will be renegotiated rather than enforced and enforcement (by litigation or its threat) is only one method of ensuring that parties meet

[36] David Niven said of Errol Flynn: 'There was one thing certain about Errol, he would always let you down.'

their obligations. Other methods range from the exchange of hostages to liens on assets, performance deposits or margin in organised exchanges.

Contracting is a sub-species of promising which enhances human flourishing by binding the will of others for mutual benefit. And as we saw, Elizabeth Anscombe argues that this fact creates what she has called an ‘Aristotelian necessity’.

Chapter 5 Property and Planning

In Chapter 4 we argued that human nature is inherently contractual. Promises, contracts and 'normative expectations' constitute and inform a vast array of human activities. There is scarcely anything that we do that does not involve the process of 'binding the will of others'. It is hard even to imagine a chaotic world where this was not the case and where our expectations of the actions of others were completely unreliable. The power to make contracts is unique to human beings and is one of the characteristics that distinguishes us from other animals. We also saw how contract involves specialisation – indeed contract is just specialisation and that the ability to form 'normative expectations' is what Elizabeth Anscombe called an 'Aristotelian necessity' from which much good flows.

In the current chapter we will show that the recognition and exercise of property rights is also an 'Aristotelian necessity'. We will explain why and how this unique human power to create and use property rights has its origin in the need to contain externalities or adverse spill-over effects – the unwanted interference of other parties in the execution of our plans.

Property has two aspects, the right to exclude and the ability to assign that right by means of exchange and contract. In the current chapter we will focus on the power to control and exclude rather than the ability to exchange which flows from it. Even in apparently simple cases property rights are highly complex. Thus, the ownership of a field may involve restrictions on the actions of the owner – in the form of wayleaves, rights of way, and restrictive covenants. On other hand the ownership of the field may include rights of access over land owned by someone else, and the riparian right to fish on the stream running through it.

In chapter 6 we will explain how the power to contract combined with the ability to collaborate in complex hierarchical structures gives human beings the plasticity which constitutes one of Glock's 'striking features'. In chapter 7 we will explore how this power is expressed in the division of labour. In Chapter 8 we will answer a further question: if contract and property explain how exchange can improve economic welfare of the parties to an exchange, how is economic welfare related to human flourishing?

1. Property and Planning

Plans and contracts cannot be very extensive if they exclude control of the wherewithal to execute and complete them. Such plans and contracts are possible, but they are very simple. You and I can agree to visit each other on alternate Sundays. We might lead simple lives like Swift's rational horses, the Houyhnhnms, in *Gulliver's Travels* who had no use for money and were seemingly without commerce. (Swift, 1991 / 1726, p235ff) But our lives are not like that.

Most plans and contracts require exclusive control over the wherewithal to execute them. Previously we focussed on the fact that humans alone have the power to make contracts. In the present discussion we will concentrate on the fact that human beings have the power to gain exclusive control over resources. The ability to exercise property rights and to recognise the rights of others is an important part of what it is to be a normal human being. Someone who lacks this ability is seriously defective. It can either be moral in the case of someone who takes what he can or even pathological in the case of a person who lacks the ability perhaps even to grasp the concept.

2. Property

Our analysis and justification of property is based primarily on the ability of humans to form and execute complex plans. Without the stable and exclusive control of resources, such plans are very difficult to execute because of interference by other people 'messing with my stuff', to use the singer Jack Myers' phrase[37]. Suppose that I decide to effect a complex project using resources of different kinds, (say, human, physical, financial and intellectual) then I must have a degree of certainty that they will be available to me whenever I want them. In his analysis of property rights Harold Demsetz explains:

> "In a world of Robinson Crusoe property rights have no role. Property rights are an instrument of society and derive their significance from the fact that they help a man form those expectations which he can reasonably hold in his dealings with others. These expectations find expression in the laws, customs, and mores of a society. An owner of property rights possesses the consent of fellowmen to allow him to act in particular ways. An owner expects the community to prevent others from interfering with his

[37] Jack Myer's song: 'Don't mess with my stuff'. (Hall & Shera, 2020, p468)

actions, provided that these actions are not prohibited in the specification of his rights." (Demsetz, 1967, p347)

In an earlier paper Demsetz explains that property gives the right to contract and to exchange as well as to exclude. (Demsetz, 1964, p11) He also emphasises that property is only attributable to persons (and not to plants or animals) and that it is the expression of human agency. (Demsetz, 2008, p91ff)

Demsetz argues that the creation and demarcation of individual ownership stems from the emergence of externalities. An externality is a side effect or spill-over from the activity of one person onto that of another. Externalities can be both positive and negative, but we will focus on negative externalities where harm is caused to third parties. Demsetz gives the example of the emergence of private ownership in land amongst the Indians of the Labrador Peninsula as the result of the development of the European fur trade in the 18th century. (Demsetz, 1967, p351ff) Previously, beaver trapping had been done primarily for food. With demand for beaver meat low, there was little danger of over-hunting of the beaver population, which remained stable and sustainable. But over-hunting of such a Common Pool Resource (CPR) created the danger of population decline as each party with the ability to hunt seeks to exploit the resources before its competitors. Eventually this will destroy the resource and the expectations and plans of all parties will be frustrated. This is the 'Tragedy of the Commons' as analysed by Garrett Hardin. (Hardin, 1968). The difficulty is that it is impossible for any one owner of a CPR held in common to husband it. If he reduces his use of the resource, there can be no guarantee that the other joint owners will follow his example. Indeed, they may increase their exploitation of the resource and take up the slack created by the first owner.

Once demand for furs for the European trade emerged hunting increased - but also the danger of over-hunting and depletion of the stock of fur bearing animals. The result was that the Labrador Indians established rights to hunting territories amongst themselves and the danger of over-hunting was reduced as each party had an interest in maintaining the stability and sustainability of the resource. It is important to note that this was because the Indians were both forward looking and able to agree amongst themselves.

In contrast in the south western plains of the United States in the early 1800s property rights were not established until the advent of European cattle for two reasons. First the animals of the plains had very large ranges which made them difficult to control, and second the value of the animals was small. This made the establishment of property rights unnecessary. The externalities were small and the cost of internalising them with property rights was high. (Demsetz, 1967, p353) Of course when valuable cattle were introduced, internalisation became necessary - and cheap with the advent of barbed wire. Rights to valuable cattle and land on which to graze them needed protection from interlopers.

This explains why Robinson Crusoe had no need of property. There was no one else to interfere with his plans to hunt, to feed himself and to build shelter. By himself he could form long term plans which would be upset only by bad weather, natural disasters or unexpected misfortunes. He could take precautions against such troubles, but he had no need to provide for protection against thieves, poachers and trespassers. A lone castaway has need of many things, but protection from thieves is not among them.

But once a newcomer appeared upon Crusoe's island there was the possibility that he might interfere with Crusoe's plans. Such interference could take the form of an externality created by the action of the interloper. In turn this would make property demarcation necessary to enable the effective husbandry of the available resources. One can see easily how difficulties created by the interloper might develop.[38] Suppose that the newcomer bases himself in another part of the island and initially does not interfere with Crusoe. But later he begins to fish in a bay that was fished by Crusoe and his activity interferes with him. With only one fisherman the fish stock was sustainable, but with two it might be rapidly depleted. Alternatively, the mere presence of another fisherman may alarm the fish which flee into deep water where fishing from the shore is impossible. The mere presence of the additional fisherman can create side effects that damage both his interests and those of Crusoe. The solution is the forming (by whatever means) of a convention that divides the fishing operations of Crusoe and the interloper so that the adverse side-effects are

[38] Crusoe was not alone on his island but shared it with his servant 'My Man Friday' (often shortened to 'Man Friday'), but we shall assume he was entirely alone until the arrival of the newcomer. (Defoe, 1991 / 1719)

minimised. The convention can be described as the establishment of a property right - in this case a type of riparian right.

The establishment of such property rights (or the creation of similar conventions) is an example of the way externalities can be internalised according to the Coase Theorem. Ronald Coase in a series of articles, beginning in the late 1950s, argued against the then conventional view that derived from A. C. Pigou's *The Economics of Welfare*. which was published in 1920. (Pigou, 2013 / 1920; Coase, 1959, 1988 A /1937, 1988 B / 1960, & 1988 C) The conventional argument was that externalities, such as smoke being emitted from a factory which caused a reduction in welfare in a neighbouring community, were examples of market failure. The solution was to tax the polluter or to forbid him from making such emissions. But Coase argued that this view was mistaken. (Coase, 1959 and 1988 A /1937) He pointed out that it is possible for the parties to trade and by doing so to internalise the side-effects created by the emitter. The latter can buy the right to emit from the party (or parties) affected by the smoke. Alternatively, the party affected by the emission could pay the emitter to reduce his polluting discharges. It makes no difference to the sum of welfare whether the polluter buys the right to pollute from the party (or more likely parties) affected or whether the affected parties pay the polluter not to emit. Either way welfare is preserved by a transaction between the parties.

Coase emphasises the reciprocal nature of the externality. He gives the example of the (real) case (*Sturges v. Bridgman*) of a 19th century doctor with a practice in Wigmore Street (London) and his dispute with a confectioner who had a business nearby. (Coase, 1959, p26ff & Coase, 1988 B / 1960, p105) The doctor built a consulting room close to the confectioner and found that the noise from the sweet making interfered with his interviews with his patients. The doctor then sued the confectioner. The immediate reaction would be that the doctor should be able to suppress the noise of his neighbour. But Coase points out that this does not take into account the value of the confectionery that would be lost. If permitted to trade, then one of two things would happen. Either the doctor could pay the confectioner to restrain his activities, or the confectioner could pay the doctor. (Coase, 1988 B / 1960, pp105-108)

It can be seen that the analysis of the emergence of property rights in the Robinson Crusoe case is just another example of the resolution of an externality by a negotiation and a

resulting transaction. The need for property rights and their exercise results from the adverse side-effects on one party by the actions of another. But the externality created by the interloper will only emerge if the activity is sufficiently valuable to one or other of the parties. As we saw in the case of beaver trapping in North America, the adverse side-effect only emerged once beaver skins and tails became valuable for the European fur trade. Demsetz considers a thought experiment. Suppose that the legislature legalised the theft of motor cars and prohibited the use of private detection devices – hence greatly increasing the cost of enforcement. (Demsetz, 1964, p17) The result would be that car owners would find that their cars were regularly taken from them and they would have no guarantee that they could use them when they wanted. Further the steps they could take to preserve their exclusive access would be very limited. It would be as if cars were defective and were fitted with a disabling device that turned on at random intervals and for random lengths of time. The result Demsetz points out would be that cars would lose much of their value and that there would be fewer of them. He concludes:

> "The total value of autos will fall below social value and the subsequent increase in the stock of autos will be less than it should." Demsetz, 1964, p18)

But the establishment and exercise of property rights is not without cost. Sometimes the cost of establishment and enforcement are too high to warrant their creation. Take an everyday example from the English countryside. Many landowners breed pheasants for shooting in the autumn. This is done for the entertainment of their friends and family and also as a commercial enterprise. The landowner has the right to the pheasants on his own land to shoot or to dispose of as he sees fit. However, when released from the enclosures so that they can provide good sport in the shoots that he organises, they tend to roam onto land owned by his neighbours. But given the effort involved in husbanding pheasants from chicks to adult birds, it is a perhaps surprising that no attempt is made to enforce property rights in the straying birds. Farmers whose cattle stray through a broken fence onto the land of a neighbouring farmer do not surrender their rights over their strays. But if this is true of cattle why is it not also true of roaming game birds?

The explanation lies in the cost of establishing and enforcing a right over straying birds. Given the small value of pheasants, it is just too expensive to establish and enforce the right to control strays. Ringing pheasants would be easy enough, but their putative owner would

still have the problem of tracking down strays, catching them and returning them to his land. In contrast take the case of an exotic, rare and valuable bird that escaped from its enclosure in a zoo, then it would be worth the owner's while to track it down, catch it and return it to its enclosure.

One possibility, not to be ignored, is that the value of the resource might fall below enforcement costs and it might be abandoned by its owners. An example might be an exhausted mine – or land rendered infertile by climate change.

3. Trust and the Creation of Property Rights

We have discussed why property rights emerge, but we have not explained in detail how they are established and enforced. We saw in the case of some forms of property the right is established by a process of negotiation between the interested parties. As we saw, one example might be the agreement by Labrador Indians over beaver trapping ranges in the 18th century.

But sometimes the state, as for example in the case of the electro-magnetic spectrum, allocates rights in a newly discovered Common Pool Resource (CPR). Still the principle that often decides which process is used is the cost of successful negotiation relative to the expected advantage. Where there are few parties in contention, then it is likely to be easy enough to reach agreement. However, in cases where there are a large number of parties to the negotiation, these costs may be extremely high and government intervention may be necessary to establish the necessary private rights. In some cases governments may intervene even when private negotiations could be effective. Thus, the US Congress intervened in the 1920s to prevent the formation of property rights in the electro-magnetic spectrum because it was thought that radio was a national resource too important for private ownership. (Coase, 1959)

Elinor Ostrom has pointed out that the standard Demsetz-Coase analysis of negotiation over externalities and the formation of property rights makes some unrealistic assumptions about the motives of the participants. She explains that those involved in the negotiations have a number of motives, some of which are ignored in the conventional analysis. She writes:

> "Humans adopt a narrow, self-interested perspective in many settings, but can also use reciprocity to overcome social dilemmas. Users of a CPR include (i) those who always behave in a narrow, self-interested way and never cooperate in dilemma situations (free riders); (ii) those who are unwilling to cooperate with others unless assured that they will not be exploited by free riders; (iii) those who are willing to initiate reciprocal cooperation in the hopes that others will return the trust; and (iv) perhaps a few genuine altruists who always try to achieve higher returns for a group." (Ostrom *et al*., 1999, p279)

She points out that evidence of these different motives has not been generated *a priori*, but are the result of empirical research. As a matter of fact, peoples' motives in such circumstances are various and are not limited to self-regard. (Ostrom *et al.*, 1999, p279) The parties engaged in the emergence and operation of any system of ownership depend to a considerable extent on the creation of trust between the parties. (Ostrom *et al*., 1999, p281) As we will see in chapter 9, trust is an important means of reducing transaction costs generally and it should be no surprise that it can (and often should) be important in the emergence of property rights.

Where there are only a few parties, Crusoe and his new neighbour for example, negotiations between the castaways may be sufficient to create conventions for the use of a resource. And, as we saw, the smaller the group the more easily trust can be established between the parties. Elinor Ostrom's emphasis on the importance of trust in the creation of conventions for the management of externalities is an important insight not explored by Demsetz or Coase.

We can now see how the existence of varying degrees of trust can affect the emergence of property rights. We saw that the creation of such rights only makes sense, as Demsetz argued, if the costs of enforcing individual ownership (over straying pheasants, for example) were smaller than the benefits that exclusive ownership would bring. Trust has the effect, to a lesser or greater extent, of reducing the cost of enforcement. In some cases, though, even the existence of substantial amounts of trust would be unlikely to make it worthwhile for English landowners to assert a property right over their straying pheasants. Still there are many cases where trust would reduce the cost of enforcing a right. For example, where

neighbouring farmers were trusting they might well return straying cattle to their owners without waiting for the owners to search for them.

4. Property: The Modern Consensus

We can now outline a modern consensus on the function of property. Property rights give exclusive control of scarce resources which are needed in the completion of human plans. Their value determines whether it is worthwhile to appropriate them. But their value is reduced by the cost (and practicability) of enforcement, as mitigated by trust. The more trust exists, the lower the costs of enforcement. However, in some cases no increase in trust can outweigh the impracticability of enforcement.

Exclusive control over scarce resources is necessary to prevent the interference, adverse spill-over effects or externalities of the actions of a party (or parties) on others. Property rights prevent other people from interfering in my plans. In this sense the exercise and reciprocal recognition of property rights is a human practice that facilitates the completion of plans for future advantage. Where there is no scarcity there is no need for property, as the actions of other parties can have only small effect on the abundant resources available. Resources can become scarce and valuable and hence require property to prevent interference. Prior to the 1920s and the development of broadcasting, the radio spectrum had no value. But resources can also lose their scarcity and their value and be abandoned by their owners as the result of the exhaustion of a resource or a change in taste or technology.

5. Classical Authors and Demsetz, Coase, and Ostrom

We can now review how the analyses of property by a variety of classical writers, both ancient and early modern, such as Plato, Aristotle, Aquinas, Hobbes, Locke, Ferguson and Hume enhance the analysis of Demsetz, Coase and Ostrom. The analyses of these three gives greater precision to the arguments of the classical writers and this accounts for our reviewing the authors in the reverse of temporal order with the moderns first. For example, Demsetz (in particular) gives precision to Aristotle's and Aquinas' objections to communal ownership. But on the other hand, the classical writers have valuable insights that are not present in the moderns.

Plato and Aristotle

In analysing their views on property, Plato and Aristotle are best considered together, as Aristotle's account of property, set out in Book II of *The Politics* stems largely from his criticism of Plato's argument for communal property in *The Republic*.

Plato describes how in his ideal state the property of the guardians, the ruling group, would be owned communally. (Plato, *The Republic*, 2013) Lesser folk would be allowed to own property individually. Aristotle claims that Plato's proposal would be impracticable and would promote quarrels. Plato's view was that the guardians needed to have strong communal spirit which would be fostered by joint ownership. He writes:

> "…if they are really to be our guardians, they should have no private houses, nor land nor any property, but should receive their subsistence from everyone else as their pay as guardians, and all consume it in common." (Plato, 2013, *The Republic*, Vol 1 p505, 464b)

In *The Laws*, which is Plato's 'severely practical' description of a second best polity (Taylor, 1966 / 1925, p463) compared to that described in *The Republic*, he assumes the existence and legitimacy of private property. His substantial analysis is set out in Book XI. (Plato, 1926, *The Laws,* Vol 2, p389ff, 913 ff) Plato first asserts that private property is to be respected. He writes:

> "So far as possible, no one shall touch my goods nor move them in the slightest degree, if he has in no wise at all got my consent; and I must in like manner regarding the goods of all other men, keeping a prudent mind." (Plato, 1926, *The Laws*, Vol 2, p389, 913)

Plato then discusses buried treasure which is not to be appropriated by its discoverer. Indeed it is wrong, he claims, to pray to the gods to reveal the location of buried treasure. If found it must be declared to the proper authorities. Plato's argument suggests that the role of property is to give owners exclusive control that other parties can only use with the owners' 'consent'.

Aristotle's detailed discussion of property is in Book II of *The Politics* (Aristotle, *Politics,* p75, 1261b ff) He begins by considering whether common or private property is preferable. He

then describes two alternative forms of ownership of farms. In the one case the farms are owned communally and their produce distributed amongst the individual owners and in the other the land is owned privately but the produce is brought into a common stock. But such arrangements are, he thinks, likely to lead to disputes.

Property should be privately owned as "…to feel that a thing is one's private property makes an inexpressibly great difference in one's pleasure…" (Aristotle, 2005, *Politics*, p89, 1263b) He believes also that the ownership of private property gives the power to do good to one's friends and family. He writes:

> "Moreover, to bestow favours on friends and visitors or comrades is a great pleasure, and a condition of this is the private ownership of property." (Aristotle, 2005, *Politics,* p89, 1263b)

But Aristotle argues that private property is fluid in character and can and should be moulded by legislation. The quarrels that attend private ownership are not the result of the lack of communal ownership but are rather the result of 'wickedness'. Consequently, he thought that private property required 'good morals' and the 'regulation of correct legislation' if disputes were to be minimised. (Aristotle, 2005, *Politics*, p91, 1263b)

He explains that Socrates is mistaken about the desirability of the common ownership of property because while the state and the family should be a unity, "…they should not be so in every way…" (Aristotle, 2005, *Politics*, p91, 1263b) Unity, he claims, should be achieved by education. Private property should be infused with liberality. He explains that:

> "The proper thing is for the state, while being a multitude, to be made a partnership and a unity by means of education…" (Aristotle, 2005, *Politics,* p91, 1263b)

Aristotle then commends the practice in some states where owners share their possessions with one another. And this virtuous practice "…will result in making 'friends' goods common goods', as the proverb goes…" He cites the example of Sparta. "…for instance in Sparta people use one another's slaves as virtually their own, as well as horses and hounds, and also the produce of the fields if they need provisions on a journey." He concludes: "It is clear therefore that it is better for possessions to be privately owned, but to make them common

property in use; and to train the citizens to this is the special task of the legislator." (Aristotle, 2005, *Politics*, p87/89, 1263a)

In focussing on the importance of education for the right use of property, he appears to be unique amongst the writers on property, both ancient and modern, that we discuss. He sees clearly the advantages of communal unity, but he thinks that this is best achieved by a combination of private ownership and the knowledge and practice of virtues which he does not specify but would include generosity, liberality and magnanimity. He must, though, have been thinking of a species of liberality which is the virtue that lies between the excess of extravagance and the deficiency of niggardliness in the use of property. It is discussed by Aristotle at some length in Book IV of the *Nicomachean Ethics* (Aristotle, 1966, *NE*, p79ff, 1120a ff) but there he makes no explicit mention of its function in promoting the voluntary sharing of one's property with others. Property makes the practice of liberality possible and without at least some property liberality and other virtues, prudence, and philanthropy are impossible.

Aquinas

Aquinas' principal discussion of property comes in the *Summa Theologica, Part II, Part 2, Q66: Of Theft and Property.* Property is discussed in Article 1, 'Whether it is natural for man to possess external things?', Article 2, 'Whether it is lawful for a man to possess a thing as his own?', and in Article 7, 'Whether it is lawful to steal through need?'

Aquinas's main aim is to explain why contrary what to some Christian thinkers (such as Basil and Ambrose) said, it is legitimate for people to own property individually rather than collectively. Aquinas gives three substantive arguments in favour of the legitimacy of private rather than collective property. The first is that "…every man is more careful to procure for himself what is for himself alone than that which is common to many or to all; since each one would shirk the labor and leave to another that which concerns the community, as happens where there are a great many servants." Second, Aquinas argues that 'there would be confusion if everyone had to look after any one thing indeterminately'. Thirdly, he thinks that if 'each is contented with his own' there will be fewer quarrels.

But Aquinas's support for private property is not unqualified. He argues that what would ordinarily be counted theft can be legitimate *in extremis*. He writes: "In cases of need all

things are common property, so that there would seem no sin in taking another's property, for need has made it common." (Aquinas, Pt II, Pt 2, Q78, Art 7) Indeed, as we shall see, this view is shared by Hume.

Aquinas also emphasises that property has the function of allowing people to act virtuously by the relief of poverty. "…each one is entrusted with the stewardship of his own things, so that out of them he may come to the aid of those who are in need."

Hobbes

Hobbes' account of property and its origin is found in his discussion of the state of nature in Chapter XIII of *Leviathan* and in Chapter XIV where he discusses natural law and contract. (Hobbes, 1968 / 1651, pp183-201) Hobbes's grim view of the natural state colours his analysis of property and contract. The natural state, or 'warre of all against all', is a state without government and has existed at many times and in many places but "...never generally so, over all the world;" and exists currently (1651) in America. (Hobbes, 1968 / 1651, p187) In the natural state, there is, "…no Propriety, no Dominion, no *Mine* and *Thine* distinct; but only that to be every mans, that he can get; and for so long, as he can keep it." (Hobbes,1968 /1651 p188) (Emphasis in the original) The natural state is, according to Hobbes, one of poverty because,

> "…there is no place for industry; because the fruit thereof is uncertain; and consequently no Culture of the Earth; no Navigation, nor use of the commodities that may be imported by Sea; no commodious Letters; no Society; and which is worst of all, continuall feare, and danger of violent death." (Hobbes, 1968 / 1651, p186)

It can be seen that, according to Hobbes, the chief characteristic of the natural state is uncertainty. People do not know what is going to happen next and hence it is not worth their while to engage in any activity to improve their 'brutish' state. It is worth noting that although he believes that people are 'solitary' in the natural state he thinks that "…savage people in many places of *America…"* do have *"…*the government of small Families…". (Hobbes, 1968 / 1651, p187) (Emphasis in the original.)

The remedy, Hobbes thinks, is government. It is not enough for individuals to make contracts one with another as without a power to enforce them they are worthless. Hobbes believes that property can only emerge after the creation of a state and the surrender of power to a sovereign.

Locke

Locke's discussion of property is in, Chapter V 'Of Property', in the second of his *Two Treatises of Civil Government* (Locke, 1970 / 1690), pp129-141). Locke's discussion of property assumes a state of nature in which land and its fruits were originally held in common and he seeks to explain how it emerged. He assumes that all the world was unoccupied and unappropriated. As he explains: "…in the beginning, all the world was America…" (Locke 1970 /1690, p140 and quoted in Dietze, 1971, p29) He explains that man appropriates what he has use for. He writes:

> "The fruit or venison which nourishes the wild Indian, who knows no enclosure, and is still a tenant in common, must be his, and so his – i.e., a part of him, that another can have any right to it before it can do him any good for the support of his life." (Locke, 1970 / 1690, p129)

Locke then takes the argument a stage further and argues that:

> "Though the earth and all inferior creatures be 'common to all men, yet every man has a 'property' in his own 'person'. This nobody has a right to but himself. The 'labour' of his body and the 'work' of his hands, we may say, are properly his. Whatsoever, then, he removes out of the state that Nature hath provided and left it in, he hath mixed his labour with it, and thereby makes it his property."

He explains:

> "It being by him removed from the common state Nature hath placed it in, it hath by his labour something annexed to it that excludes the common right of other men." (Locke, 1970 / 1690, p130)

Locke describes the 'mixing' of labour with things given by nature as the means by which ownership is created - 'the grass my horse has bit', 'the turfs my servant has cut', and 'the

ore I have digged in any place' without the 'assignation or consent of anybody'. (Locke, 1970 / 1690, p130)

Locke's use of the term 'labour' implies that it has a broad definition that would include many forms of economic activity. Ownership in the things appropriated stems, Locke argues, from self-ownership or the right of people to decide for themselves what they can and ought to do. Locke seems to derive his concept of ownership from a proto-concept – similar to that which leads dogs to fight over bones and predators to defend their kills.

For us the important concepts are the appropriation of property from the 'common state Nature hath placed it in', the lack of consent and the exclusion of the common right of other men. Consent just follows from appropriation. There is no explicit anticipation of Demsetz's focus of the function of property in preventing or resolving disputes caused by the potential of one human activity to interfere adversely with those of others. Still Locke's use of the phrase 'excludes the common right of other men' is suggestive and his derivation of property ultimately from 'self-ownership' is an important innovation. The significance of the latter is that it appears to locate ownership in human nature – ownership and its expression in property are part of what it is to be a human being.

The Scottish Enlightenment: Adam Ferguson and David Hume

Of the early moderns, Adam Ferguson is one of the most sophisticated writers on property, as he moves from the almost pure *histoire raisonné* of Hobbes and Locke to a description of primitive societies based on actual reports. His discussion of property, in *An Essay on the History of Civil Society*, has a degree of historical realism not found in his predecessors, Hobbes and Locke. (Ferguson, 1966 / 1767) He had the benefit of 80 years collection of evidence of 'rude societies' in North America and elsewhere. Ferguson's description of the emergence of property is set out in Part II Section III, 'Of Rude Nations under the Impression of Property and Interest'. Ferguson described how in primitive societies, property was of two kinds: that held by the individual, amounting to personal goods, and those gathering grounds and hunting ranges held collectively by the troop or tribe. He ascribes the development of private ownership to a human eagerness for improvement and emulation. He writes:

> "When the parent begins to desire a better provision for his children than is found under the promiscuous management of many copartners, when he has applied his labour and skill apart, he aims at exclusive possession, and seeks the property of the soil, as well as the use of its fruits." (Ferguson, 1966 / 1767, p96)

Ferguson is suggesting that 'exclusive possession' in the 'soil' is the result of 'considerations of interest'. When a person's immediate needs are met, "…he can act with a view to futurity, or rather finds an object of vanity in having amassed what is become a subject of competition, and a matter of universal esteem." (Ferguson, 1966 / 1767, p97) He can then "…apply his hand to lucrative arts, confine himself to a tedious task, and wait with patience for the distant returns of his labour". Thus, Ferguson argues, "…mankind acquire industry by many and slow degrees." (Ferguson, 1966 / 1767, p97) For our purposes, Ferguson's most important conclusion is that when people set their eye on future benefits, 'objects of vanity' that are the subject of competition, then individual property ownership emerges.

Hume's analysis of property appears in *An Enquiry Concerning the Principles of Morals* (Hume, 1983 / 1751). His approach is to engage in a thought experiment. He imagines a world where there was no scarcity and the inhabitants were altruistic and claims that in such a world there would be no need for property. He writes:

> "Why should I bind another, by deed or promise, to do me any good office, when I know that he is already prompted, by the strongest inclination, to seek my happiness… Why raise land-marks between my neighbour's field and mine, when my heart has made *no division between our interests*; but shares all his joys and sorrows with the same force and vivacity as if originally my own?" (Hume, 1983 /1751, p22) (Emphasis added.)

He continues:

> "Every man, upon this supposition, being a second self to another, would trust all his interests to the discretion of every man; without jealousy, without partition, without distinction. And the whole human race would form only one family; where all would lie in common, and be used freely, without regard to property; but cautiously too, with as entire regard to the necessities of each individual, as if our own interests were most intimately concerned." (Hume, 1983 / 1751, p22)

Hume's next step is to argue that these conditions do not obtain in "…the present disposition of the human heart…" (except, as he suggests, in families) and hence property and contract are necessary. There is scarcity and other people are not 'prompted by the strongest inclination, to seek my happiness'. It follows that attempts to dispense with property are vain.[39]

Hume then imagines a society in which the most egregious scarcity exists in a siege or after a shipwreck. He imagines the suspension of the 'rules of equity and justice' to ensure self-preservation. His point is that the institution of property is to serve utility, but when exceptional circumstances, a shipwreck, a siege, or a famine, arise it can and should be abandoned. Hume writes:

> "Is it any crime, after a shipwreck, to seize whatever means or instrument of safety one can lay hold of, without regard to former limitations of property? Or if a city besieged were perishing with hunger; can we imagine, that men will see any means of preservation before them, and lose their lives, from a scrupulous regard to what, in other situations, would be the rules of equity and justice?" (Hume, 1983 / 1751, p22/23)

Similarly Hume argues, if I were to fall in with thieves, I would be entitled to defend myself and my property and to: "…make provision by all means of defence and security." (Hume 1983 / 1751, p23) Hume's point is that much good flows from the institution of property in ordinary circumstances, but these do not always obtain. As we have seen he makes the interesting and pregnant suggestion that ordinary circumstances do not include family life.

Still Hume's focus on the need for scarcity to give property utility is very similar to Demsetz's description of the emergence of property in 18th century North America. Its importance is that he links property to scarcity and to the 'present disposition of the human heart', which we may take to be the equivalent of human nature as it presently exists.

[39] An interesting flaw in Hume's thought experiment is that it seems highly unlikely, even with maximum altruism, that neighbours and family will know enough about my plans, wishes and ultimate ends to be able to meet them satisfactorily.

6. How the Classical and Early Modern Writers on Property Relate to the Moderns

How do the arguments of the classical writers on property, ancient (Plato and Aristotle), mediaeval (Aquinas) and early modern (Hobbes, Locke, Ferguson and Hume) compare with those of the moderns (Demsetz, Coase and Ostrom)? The main theme of the ancients and Aquinas is to justify private property as an institution and to resist the claims of Plato (in *The Republic*) and some Christian writers that property should be held in common. The early modern writers add to the purely economic analysis of Demsetz but they also reflect in general terms an analysis to which Demsetz gives much greater precision. Thus Hobbes' and Locke's discussions of 'America' amount to a proto-analysis of the appropriation of Common Pool Resources.

Demsetz's great contribution is to show that the emergence of property is the result of the balance between the value that would result from the appropriation and the cost of its enforcement. Straying pheasants are common property, but straying cattle are not. A major theme in Aristotle and Aquinas is that collective ownership leads to quarrels. Demsetz explains why this should be the case. The quarrels identified by Aristotle and Aquinas are the result of high negotiation costs that make it difficult to reach agreement on the use of Common Pool Resources. And Ostrom's focus on trust as a means of easing the formation and exercise of property rights can be seen as a paralleling Aristotle's insistence that property needed 'good morality' to function properly. For both Aristotle and Ostrom property needs virtues.

What do the classical writers on property add to the moderns? Aristotle and Aquinas showed that the ownership of property makes possible the practice of virtues which would be impossible without it. In Aristotle's case this is 'liberality' and in Aquinas's it is charity directed towards the poor. The thought experiments (or what amount to thought experiments) in Hobbes, Locke and Hume are really early attempts at the sort of analysis that Demsetz and Coase perfect. But Hume's analysis, in his shipwreck and siege examples, confirms that the function of property is not an absolute but is only instrumental. Where it produces much good it has authority but in cases of shipwrecks and sieges its justification falls away. But once the shipwrecked mariners are rescued and the siege raised its authority

reasserts itself. There is a certain irony that in this respect Hume's analysis is so like that of Aquinas.

An important contribution of Locke and Hume is the location of property in human nature. This is evident in Locke's description of how 'everyman' has property in his own 'person' which suggests that the exercise of property rights is integral part of what it is to be a human being. And it seems to reflect the proto-concept of possession used by predators to protect their prey. Similarly, Hume's description of property as reflecting the 'current disposition of the human heart' points in the same direction – that the power to own property and to recognise ownership in others is part of human nature.

Another example of the early anticipation of a Coasean insight is Hobbes' insistence that property (and security) could only be established by parties surrendering power to a sovereign. Indeed, this is the case where there are many parties and trust is limited and where, as a result, transaction costs are high. On the other hand, Hobbes has no appreciation of trust in the emergence and enforcement of property rights. With trust the surrender of rights to the sovereign may be likely but it is not inevitable or desirable.

7. Conclusion

The institution of property is indeed an 'Aristotelian necessity', as it is the means by which human beings can both pursue their own plans without interference from others and by which they can collaborate by contract and exchange. Both of these powers which flow from property are the source of much good. We saw that property emerges as a means of avoiding externalities or adverse spill-over effects, but only where it is worth anyone's while to do so. Asserting and enforcing a right to straying pheasants would produce no benefit greater than the cost. But where it is worthwhile, everywhere is 'America' (in other words a place where assets are exploited as Common Pool Resources) and the process of establishing property becomes a means of resolving conflicts and creating value. Indeed, the regular creation of property rights is just another human power that allows for more effective plan execution and cooperation.

There are three means of creating property rights, either (i) by agreement between the parties affected by the actual or potential adverse side effects, or (ii) by government action, or (iii) by a combination of the first two. The emergence of property rights and their

enforcement are facilitated by trust. This is discussed further in chapter 9. (Page 156ff) Property held individually is more effective than property owned collectively as it obviates the difficult and costly negotiations amongst joint owners and, as Aristotle and Aquinas argued, it involves fewer disputes. And, as Ostrom insists disputes are minimised by trust.

The benefits that flow from property are not limited to the ability to mitigate externalities and to facilitate the successful completion of plans, and generally to enhance economic welfare. Many of the plans facilitated by property, as Aristotle and (to a lesser extent) Aquinas emphasised, make possible virtuous acts which otherwise would be impossible. In Aquinas's case these include gifts to the poor, but evidently there are other charitable and prudential activities that accumulated property makes possible. These include the maintenance of independence, saving for 'rainy days', health care, old age, and the education and care of dependent members of one's family.

This chapter has sought to describe the benefits that the institution of property brings to human beings. It allows us to execute plans with (and without) the co-operation of others that otherwise would be impossible or expensive. In the next two chapters we review how the unique human power of infinitary combination and collaboration are instantiated in the division of labour.

Chapter 6 Human Nature: Infinitary and Syntactic

1. Adam Smith's Dogs Again

As we saw in chapter 4, human beings bind each other's wills by promises and contracts both formal and informal. By doing so they form complex networks of great size and complexity based on the nexus of contract. Let us again consider Adam Smith's dogs with their widely different 'talents' and imagine that they *could* indeed be of use to each other by making contracts and imposing obligations on one another. (Smith, 1981, p29ff) Imagine a pack of such super dogs which was composed of a number of 'tribes' each with different powers and characteristics: strong Mastiffs, docile Shepherd's dogs, and sagacious Spaniels amongst others. Thus the 'strong' Mastiffs are contracted to defend the pack while the sagacious Spaniels are in charge of the hunt. Still it is a picture of very limited collaboration. The canine contracts merely bind the dogs to complete very simple tasks for each other.

But human collaboration is quite different as it allows for the formation of hierarchies of contracts with each individual able to specialise in a particular activity in exchange for the product of the specialisation of others. We have in fact described the division of labour and this, as Adam Smith pointed out, has its origin in the unique human power to make contracts. We shall discuss the division of labour in more detail in the next chapter. As we saw in chapter 4, to contract or to create any 'normative expectation' is specialisation or the division of labour. *To contract just is to specialise.*

In this chapter we will explain that human contracting has an infinitary character. Humans have the unique power to co-ordinate their contracts, agreements and understandings in complex infinitary hierarchies. It is this combinatorial power that accounts for the plasticity which Glock claimed was a distinguishing characteristic of human societies. (See chapter 1, page 32)

This power is exhibited in language where it has been explored in greatest detail, but it also extends, as we shall see, to a large array of other human abilities and practices which include economic activities. But first we need to examine briefly the developments in linguistics over the last fifty years, which have revealed that the human language faculty is

inherently collaborative and infinitely combinatorial. In particular, we will focus on 'discrete infinity', 'recursion' and the importance of syntax. The combinatorial character of human action is best explained by the twin concepts of discrete infinity and recursion, and these require syntax.

2. Discrete Infinity

Discrete infinity was described by William von Humboldt when writing about language:

> "The processes of language must provide for the possibility of producing an undefinable set of phenomena, defined by the conditions imposed upon it by thought. *… It must, therefore, make infinite use of finite means…"* (Quoted in Chomsky, 2017, p2) (Emphasis added).

From a finite number of elements, it is possible to form an infinite number of different expressions. The infinity implied is not an actual but a 'potential infinity', like the decimal expansion of Pi. This is achieved without the use of word fractions; there are no 6 ½ word expressions. This is made possible by 'recursion' which we will explain below.

Discrete infinity and recursion have been explored most fully in linguistics although, as we will, see they apply to other domains. In a much cited review article 'The Faculty of Language: What Is It, Who Has It, and How Did It Evolve' (Hauser *et al*. 2002) Chomsky and his colleagues distinguish between the Faculty of Language Broad (FLB) and the Faculty of Language Narrow (FLN). The FLB includes the FLN and all the aspects of communication that human beings share with other animals. These latter can be divided into two: (a) – the 'sensory motor systems' which include the production and the hearing of speech, and (b) the 'conceptual – intentional system' that relates meaning to words. In contrast the FLN, which Chomsky argues is unique to human beings, includes recursion. Chomsky and colleagues describe the human capacity for language as follows:

> "As we and many other language scientists see it, the core competence for language is a biological capacity shared by all humans and distinguished by the central feature of discrete infinity – the capacity for unbounded composition of various linguistic objects into complex structures. These structures are generated by a recursive procedure that mediates mapping between speech- or sign-based forms and

meanings, including semantics of words and sentences and how they are situated and interpreted in discourse." (Hauser *et al*., 2014, p. 3)

We now turn to the nature of recursion and how it makes discrete infinity possible.[40]

3. What is Recursion?

Recursion is a concept which can be explained by the following simple example. One reads a book that develops an argument by establishing several subsidiary points on which the conclusion depends. Imagine that the book has a final chapter with the conclusion and five earlier chapters, which each contain a supporting argument. Unless the arguments of the five supporting chapters are sound, the conclusion itself is not convincing. Now imagine that the five chapters are each composed of five sections which must all be convincing before the conclusion of the chapter is accepted by the reader.

This example shows how a book can contain a complex hierarchy of arguments, the parts of which support the author's main conclusion. Notice, in particular, that the truth of the conclusion of the argument of the book depends on the truth of the component chapters and sections. If any one argument fails then the argument of the whole book is inconclusive, although some parts may be sound. *There is a sense in which the conclusion of each argument is included in the argument of the next higher level in the hierarchy and in principle there is no limit to the depth of the hierarchy.* Of course, there are limits imposed by time, space and memory.

The remainder of this section is based largely on an article, 'On recursion', by Jeffrey Watumull and colleagues (Watumull *et al*., 2014). The authors argue that confusion has been caused by an inadequate understanding of recursion in linguistics. They use a Turing machine as an analogy for human linguistic ability and argue that there are three factors that combined describe linguistic recursion. These are:

a) Computability
b) Induction
c) Mathematical Induction

[40] It has been claimed by a number of linguists that human language is not naturally recursive and that it is a cultural phenomenon. For example, Daniel Everett claims that the Amazonian language, Piraha, (and possibly the Indonesian language Riau) lacks recursion. (Everett, 2005, 2013, 2016, 2017) But even if this were true it would apply only to the language at the sentential level. *At the level of discourse even Piraha is recursive.* (Watumull *et al.*, 2014, p7)

Take these one by one.

Computability is the result of applying Turing's theory of computing machines to the human language faculty. A Turing machine consists of three elements:

a) A control unit which is defined as a finite set of 'rules, states and symbols'. These specify conditional branching – if 'x' then 'q'.
b) A tape or unbounded memory. This provides the medium by which the results of the operations in (a) are recorded.
c) A read/write head. This carries out the instructions of (a) putting the output onto the tape.

This means that the human language faculty contains what Chomsky has called an 'I-language'. It is defined by 'intension', rules which describe *any* possible output – and not by 'extension', rules which would merely (and impossibly) list *all* possible output. It is 'internal' to each human being and it is 'individual' to the human species. An I-language need not be represented anywhere but its product the E-language is a potentiality that the system can produce. The distinction can be explained by an analogy with arithmetic. Watumull *et al*. explain:

> "We can define *I-arithmetic*—represented internal to the mind/brain of an individual of the species *Homo sapiens sapiens*—as the function in intension that generates as its extension a set of arithmetical theorems (E-arithmetic). The latter may not be represented anywhere (internally or externally); it is nonetheless the set generated by the former in the sense that the extension is deterministically specified by the intension." (Watumull *et al*., 2014, p2)

Thus the natural numbers are defined in intension by the rule that adds one to its predecessor number but are nowhere listed in extension which would be an impossibility.

Induction is defined by Watumull *et al* as a procedure where "…a function f is defined for an argument x by a previously defined value [e.g. f(y), y<x)] so as to strongly generate increasingly complex structures carried forward on the tape." (Watumull *et al*., 2014, p3) In other words the result of each step is preserved in the next step and is not discarded.

They point out that induction implies the generation of hierarchical structures which are not to be understood as strings or lists of items. Induction implies a strong generative process which is not necessarily evident in the output. For example the string AAAAAABBBBBB

should be interpreted as a hierarchy of nested groups [A[A[A[A[A[AB]B]B]B]B]B]. Watumull *et al.* give the following example. Take the sentence: 'The boy saw the man with binoculars.' This can mean either: 'The boy saw the man by using binoculars.' or, 'The boy saw the man who was carrying binoculars.' The ambiguity can be removed by bracketing:

(i) [[the boy] [saw [the [*man [with binoculars*]]]]] (1)
(ii) [[the boy] *[[saw [the [man]]]* [with binoculars]]] (2)

A sentence listed as a string can represent a number of different structures which are only identifiable separately by their syntactic structure.

Mathematical induction implies that the human language faculty is unbounded. This is explained by the fact that in principle there is no limit to the ability of human beings to create new sentences. Watumull *et al*. give the example of the decimal expansion of π, 3.141592… and point out that a Turing machine can be used to calculate this series. Although computing the series would require infinite time and memory, this infinite ability is built into the structure of the finite machine even if it can only be expressed in a limited number of digits. They explain:

> "…the Turing machine generates or determines that the third digit in the decimal expansion of π is 1 even if its tape can only represent the first two digits…" (Watumull *et al.,* 2014*,* p4)

And they conclude:

> "Analogously, the grammar of language L generates L in its infinity – i.e., I-language generates E-language – regardless of the fact that only a finite subset of its structures can ever be physically produced." (Watumull *et al.,* 2014, p4)

It follows that human language is unbounded in principle. It is always possible *in theory* to add 'Robert said that…' to any sentence. But this does not imply that *in practice* this would be the case or that it could ever be practicable.

Linguistic recursion uses finite means to generate a potentially infinite output, but it is not iteration or 'tail recursion' as in the generation of the natural numbers where the preceding number used to generate the next number in the series is discarded. Generation is a

potentiality not an actuality and it describes a competence. Arithmetic involves recursion, but it should be seen as being parasitic on the full recursion exercised by users of human language. Nor should it be seen to be iteration, as in '…and tomorrow and tomorrow and tomorrow…', although such conjunctions can be included in recursive structures.

4. Recursion Exemplified in Linguistic MERGE

[This section draws on Radford et al., *Linguistics an Introduction* (Radford *et al*., 2009) and Mark Baker, *The Atoms of Language* (Baker, 2001)] MERGE is the recursive procedure by which words (or more specifically 'lexical items' which include verb endings '…ed' for example) are combined to form expressions. Simply expressed MERGE combines two elements to take on the properties of a constituent. In many languages this is often the result of the property of 'endocentricity' – or 'headedness'. Take the phrase 'reduce taxes'. This can be analysed as:

$$(\text{reduce}_{V})(\text{taxes}_{N})_{VP} \qquad (3)$$

This shows how the verb component of the phrase 'reduce' gives its character to the verb phrase 'reduce taxes' as a whole. The same procedure applies in the more complex sentence, 'The boy saw the man with binoculars.'

$$[(\text{the}_{D}\ \text{boy}_{N})_{NP}\ \{\text{saw}_{V}\ [(\text{the}_{D}\ \text{man}_{N})_{NP}\ (\text{with}_{P}\ \text{binoculars}_{N})_{PP}]_{NP}\}_{VP}]_{S} \qquad (4)$$

Note: $_{S}$ sentence; $_{D}$ determiner; $_{VP}$ verb phrase; $_{P}$ Preposition; $_{N}$ Noun; $_{NP}$ Noun Phrase

This procedure of phrases merging into each other while retaining the character or 'head' of one of the components is the means by which linguistic recursion is articulated. But MERGE is subject to constraints, two of which concern us.

First, not every word can be merged with any other - only some words can fit together. Thus intransitive verbs cannot be mated with nouns as objects. For example, it is grammatical to say:

The dog barked (5)

But not:

The dog barked the man (6)

Second, MERGE is subject to parameterisation. This means that in different languages MERGE operates in different ways, with different rules. Thus English is a Head Initial language with the Head appearing first so one puts the Head first and says:

Eat an apple (7)

In contrast a Japanese is a Head Final language and a Japanese person will put the Head last and say the equivalent of:

An apple eat (8)

The latter example is more complicated than represented as in Japanese the noun 'apple' has an accusative suffix and the verb has a tense [non-past] suffix, but the principle is apparent. Languages are rarely wholly Head Initial or Head Final, but one will likely predominate. Thus small children with an appropriate exposure to English will produce sentences such as:

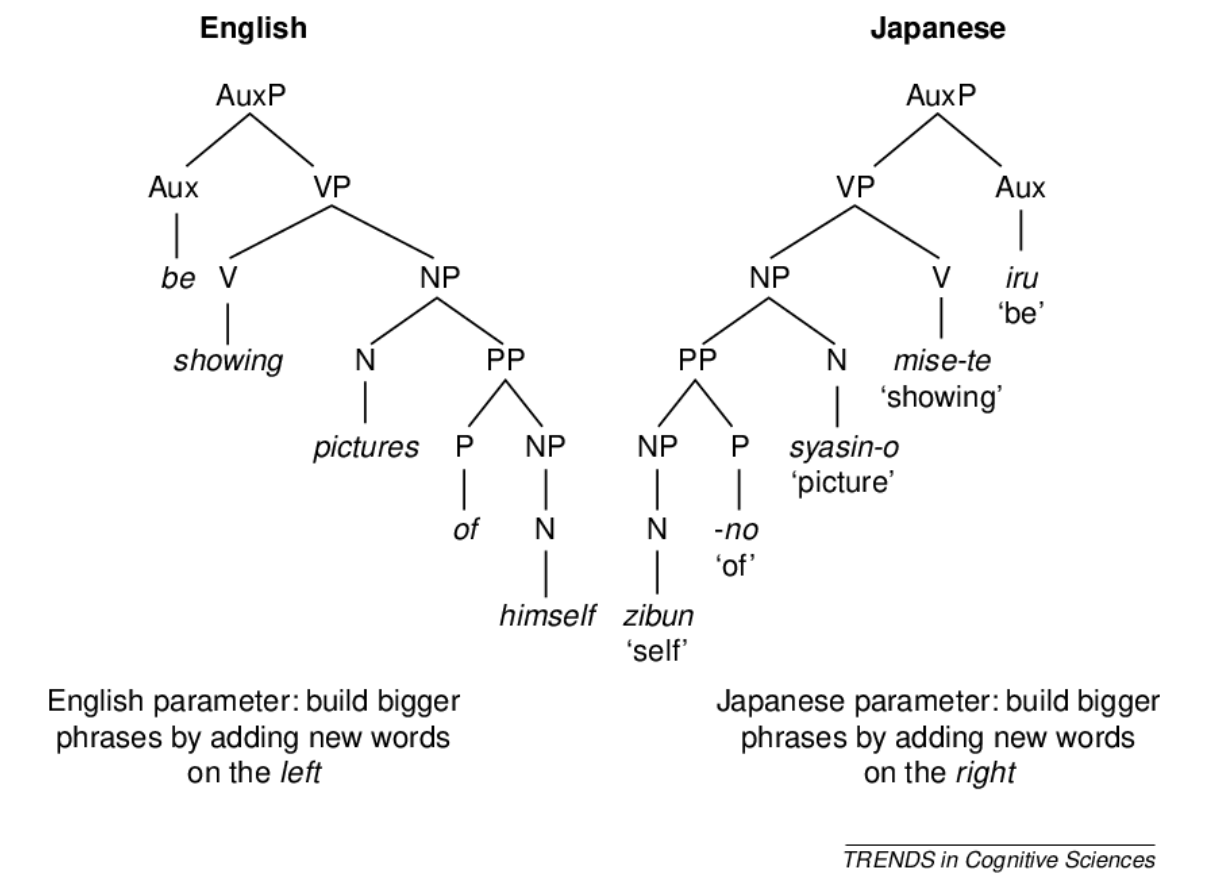
Find teddy (9)

Or

Eat cookie (10)

Both expressions, 9 and 10, show that children learning English understand from an early age and early exposure that English is a Head Initial language. The linguist Mark Baker gives a more complicated example to show the difference between a Head Initial (English) and a Head Final language (Japanese) which is illustrated in Figure 1 below. (Baker, 2003, p351) The Auxiliary Phrase (AuxP) in English and Japanese are mirror images of each other reflecting the fact that larger phrases are built by adding new words to the beginning of the phrase in English and at the end in Japanese.

Figure 1 Head Initial and Head Final Phrase Construction in English (HI) and Japanese (HF)



Note: V, Verb; P, Phrase; VP, Verb Phrase; N, Noun: NP, Noun Phrase; P, Preposition; PP, Prepositional Phrase; Aux, Auxiliary; AP, Auxiliary Phrase.

Source: Baker, 2003, p351

This can be shown by the bracketed expressions – 11 and 12.

ENGLISH (Head Initial):
$\{be_{Aug}\{showing_{Verb}\{pictures_{Noun})[(of_{Prep}himself_{Noun})_{PrepP}]_{NounP}\}_{Aug\ Phrase}$ (11)

JAPANESE (Head Final):
$\{[(self\ 'zibun'_{Noun}\ of\ '-no'_{Prep})_{Prep\ Phrase}\ pictures\ 'zyain\text{-}o'_{Noun}]\ (showing\ 'mise\text{-}te'_{Verb}\ be\ 'iru'_{Aux})\}_{Aug\ Phrase}$ (12)

Of course, the Head Initial or Head Final 'switch' is not the only parameter. Another is the Null Subject parameter. Thus, some languages allow a null subject 'piove' ('It's raining') as in Italian while English and French do not: one must say 'It's raining' or 'Il pleut'. (Baker, 2001, p45) Another parameter setting is the Question Movement Parameter. Thus, in English a question indicated by the movement of the interrogative from the beginning of the

sentence, where in Japanese it appears at the end. Thus in English one says: 'What do you want?' and in Japanese: 'Mu-kufuna chiyani?', which is the equivalent of 'You-want what?' (Baker, 2001, p185)

We pay particular attention to on the 'Head Initial' / 'Head Final' parameter (endocentricity) because, as shall see, it is important in analysing (parsing) actions and processes. Actions and sub-actions fit together so that they form part of other actions higher in the hierarchy while preserving their particular role and function. In action the headedness is often technical rather than conventional.

In summary linguists seek to understand the deep structure of the expression before him and to decide which grammatical rules are in operation. Recursion in language has five telling characteristics:

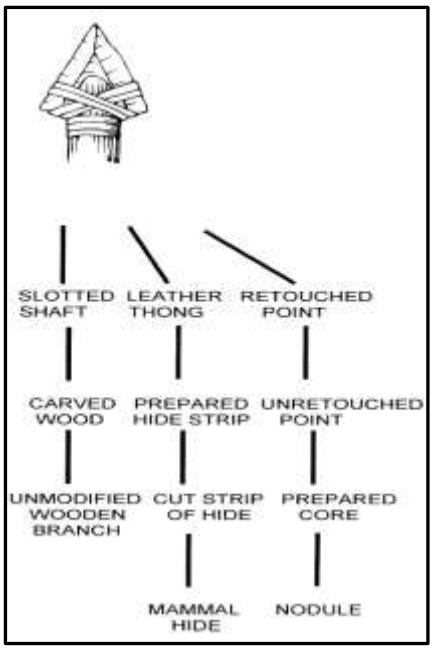
(i) It is a generative *capacity*, which is not necessarily instantiated;
(ii) It generates complex hierarchical structures;
(iii) It can generate unbounded expressions;
(iv) It requires nodes: lexical items (words), (and in other domains - as we shall see - 'techno-units' or 'sub-actions'; etc), and
(v) It involves parameterisation.

In other words, human language has an infinitary character which gives humans an unbounded ability to compose sentences and discourse. An important discovery for our argument is that linguists have found strong reasons for believing that the language ability (and recursion) are deeply engrained in human nature.

Our next step is to show how recursion applies in human practices other than language, and to economic activity in particular.

5. The Urge to Merge: Recursion Beyond Language

Figure 2 Recursion in Palaeolithic Tool Manufacture



Source: Hoffecker, 2007, p373.

But does recursion and its product, discrete infinity, have application beyond language? There is considerable evidence that it does. Michael Corballis has argued that recursion is a human universal and that it was acquired before the emergence of language. (Corballis, 2011, p204ff) He cites evidence for the manufacture of combinatorial tools (e.g., those with wooden hafts or handles) as long ago as between 300kya and 400kya. (kya, thousand years ago) (Hoffecker, 2007), compared to the emergence of language perhaps between 75kya and 100kya years ago.

John Hoffecker describes how there is evidence for what he calls 'meta-technology' about 400kya. Analysis of spears found in Schoningen in Germany showed that they had been made through a 'highly complex series of steps' using 'retouched flake tools'. Complex planning was also evident in the manufacture of stone blades around 175kya. "...blade-like flakes of predetermined size and shape were produced by a hierarchically organized sequence of removals from a prepared core." (Hoffecker, 2007, p371)[41] Hoffecker explains

[41] He makes the telling point out that the finished stone tool does not resemble the original blank. (Hoffecker, 2007, p368)

that prepared core technology was often part of even more complex processes which involved the hafting of handles and shafts to prepared stone blades and summarises as follows:

> "The composite tools and weapons reflect a more complex externalised representation. Not only is it composed of several elements of varying form and material, but each techno-unit exhibits its own sequence of procurement and production that nests within the overall hierarchy like a subordinate clause." (Hoffecker, 2007, p371)

As illustrated in Figure 2, it can be seen that the process of making the spear has three different paths which have to be brought together to complete the spear. These are respectively the shaft, the retouched stone point and the leather thong which attaches the one to the other. Each path has separate steps which must be completed before they can be brought together in the finished weapon. The total number of steps is 12 and John Hoffecker also gives the example of the manufacture of a composite tool which had four pathways and 14 steps.[42] Each of these steps involves the creation of a 'techno-unit' which is then assembled into a new 'techno-unit' at a higher level in the hierarchy. A 'techno-unit' is the equivalent of the 'lexical item' in language and provides the means by which discrete infinity can be generated. Hoffecker is not alone in pointing to recursion as important in Palaeolithic tool making. (Lluis & Gormila, 2012)

Hoffecker argues that the recursion 'both within and among the technologies' was so extensive that it is unclear whether they were all carried out by the same person. In other words, he cannot tell whether there was division of labour between people specialising in different tasks or whether all the steps were carried out by the same person. As we shall see where this can be decided it has important consequences.

6. Recursion in Economics

In this section we describe how analysis in terms of recursion can be used in an analysis of economic activity. Recursive structures, although not given that description, are actually described in classic economic texts. For example, Alfred Marshall in his *Principles of Economics* distinguishes between 'consumption goods' and 'production goods'. The former he also calls 'goods of the first order' and the latter 'instrumental goods' or 'intermediate

[42] In both examples the number of steps includes final assembly.

goods'. He explains: "[production goods], such as ploughs, looms, raw cotton …. satisfy wants indirectly by contributing towards the production of the first class of goods." (Marshall, 1964 / 1890, p54)

Carl Menger makes a similar distinction between goods of an unspecified number of stages, first, second, third, …. orders of goods. (Menger, 1994 / 1871), p56ff) The principle is the same as Marshall's and shows how complementary goods and processes are brought together to produce goods each a step closer to consumption.[43] This analysis suggests that economic activity naturally displays 'endocentricity'. All goods are complementary and have to be combined with others to produce goods of a lower order resulting in either other production goods of a higher order or in consumption goods. The terminology of 'orders of goods' can be confusing as lower order goods are actually higher in the hierarchy of production. Take the example of the stages in the making of bread and the bringing together of production goods and actions as illustrated in a tree structure in Figure 3.

Figure 3 Marshall / Menger: Production Structure

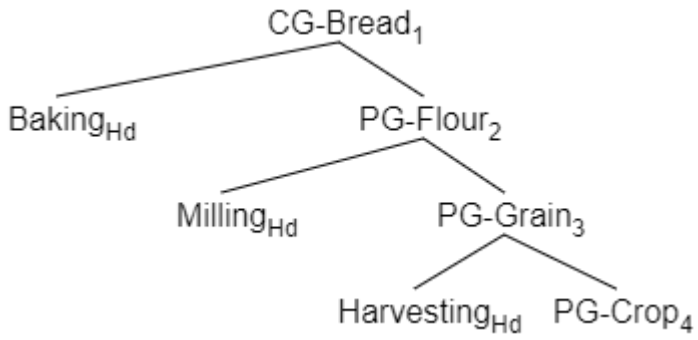


Figure 3 shows a version of Marshall and Menger's analyses, although the structure shown is much simplified as it leaves out sub-activities which are no doubt present.[44] It analyses the process in terms of 'actions' and 'goods' (both production and consumption goods) as separate nodes. Nonetheless the figure clearly illustrates how production goods are transformed by the 'action phases', 'Harvesting', 'Milling' and 'Baking' into more and more

[43] Analysis in terms of a hierarchical structure of production is evident in the analysis of the 'Austrian' economists. Based largely on the work of Hayek, latter-day Austrians, see production as goods moving through a time-consuming 'roundabout' structure of assets towards consumption. (Hayek, 1931; Hayek, 1976 A / 1941; Lachmann, 1978; Kirzner, 1996; Garrison, 2007)

[44] For example, Mark Skousen expands the chain to four stages, raw materials, manufactured goods, wholesale goods and final retail goods. (Skousen, 2007 / 1990, p170ff)

specific production goods as they get closer to bread – the consumption good. The basic production good - the grain crop is converted into bread by a proper sequence of nested actions. We have labelled the actions with a 'Hd; or 'Head' subscript suffix to show that they are the activities that generate the next stage production good. The production goods (PG) have suffix numbers (2-4) to show how far they are away from the consumption good (CG). Thus, harvesting converts a standing grain crop into grain. The figure can also be represented by bracketing as shown below:

Bread {Baking$_{Hd}$ Flour(Milling$_{Hd}$ Grain[Harvesting$_{Hd}$ Grain Crop])} (12)

The economist Brian Arthur introduces the idea of recursion to explain how invention is often structural, involving the use of existing goods to be combined to form wholly new products. (Arthur, 2007) In effect he uses a form of economic recursion and economic MERGE to describe and analyse the invention of new 'techno-units' (to use Hoffecker's term).

Thus, in planning a new aeroplane the designer will use existing components, such as engines, avionic systems, landing gear and passenger seats, to create a new plane. Similarly, a businessman planning to form a new airline offering new routes to passengers will combine existing techno-units such as aeroplanes, landing rights, experienced staff amongst other assets to realise his plans. Arthur uses this analysis to describe how inventors often have the problem that, although they can see their way to a successful new invention, they must create a series of new sub-parts or sub-assemblies. Alternatively, the invention is achieved and the problem solved by combining (or MERGING) known technologies in a new way. Arthur compares the process to climbing a mountain. First, a general plan of the ascent is sketched out. Then it is broken down into separate sections, each of which will have its own micro-plan and problems which need to be solved. Arthur describes the process.

> "No two stories have the same plot, yet at bottom all share the same logical structure: all involve a conceptual linking of a purpose to a principle together with the resolution of the subproblems this causes. This linking defines a recursive process. It repeats until each subproblem resolves itself into one that can be physically dealt with. In the end the problem must be solved with pieces -

components – that already exist (or pieces that can be created from ones that already exist).” (Arthur, 2007, p285)

Notice on this analysis how the creative process involves the combination of existing or created parts into a new combination. Like all recursive processes this involves the use of ‘nodes’, in this case economic ‘techno-units’ to create new ones at a higher level in the hierarchy.

7. The Ethics of Collaboration

We saw in the example of the hafting of the Palaeolithic spear that while the process was recursive Hoffecker could not be sure whether the spears were made by one person or more than one with parties specialising in a particular role. Let us take an example due to Ray Jackendorf of the simple process of making coffee with a machine. (Jackendorf, 2009, p201ff) In the first instance we will follow Jackendorf in assuming that the operation is done by one person. This will show how the process can (and must) be broken down into a number of different actions (‘opening the freezer’, ‘taking out the coffee can’ etc.) if they are to be co-ordinated in the correct order to result in drinkable coffee. In other words acting alone if we want a cup of coffee this is what we must do. But further Jackendorf’s example allows us to see clearly what we must do differently if we collaborate with another person.

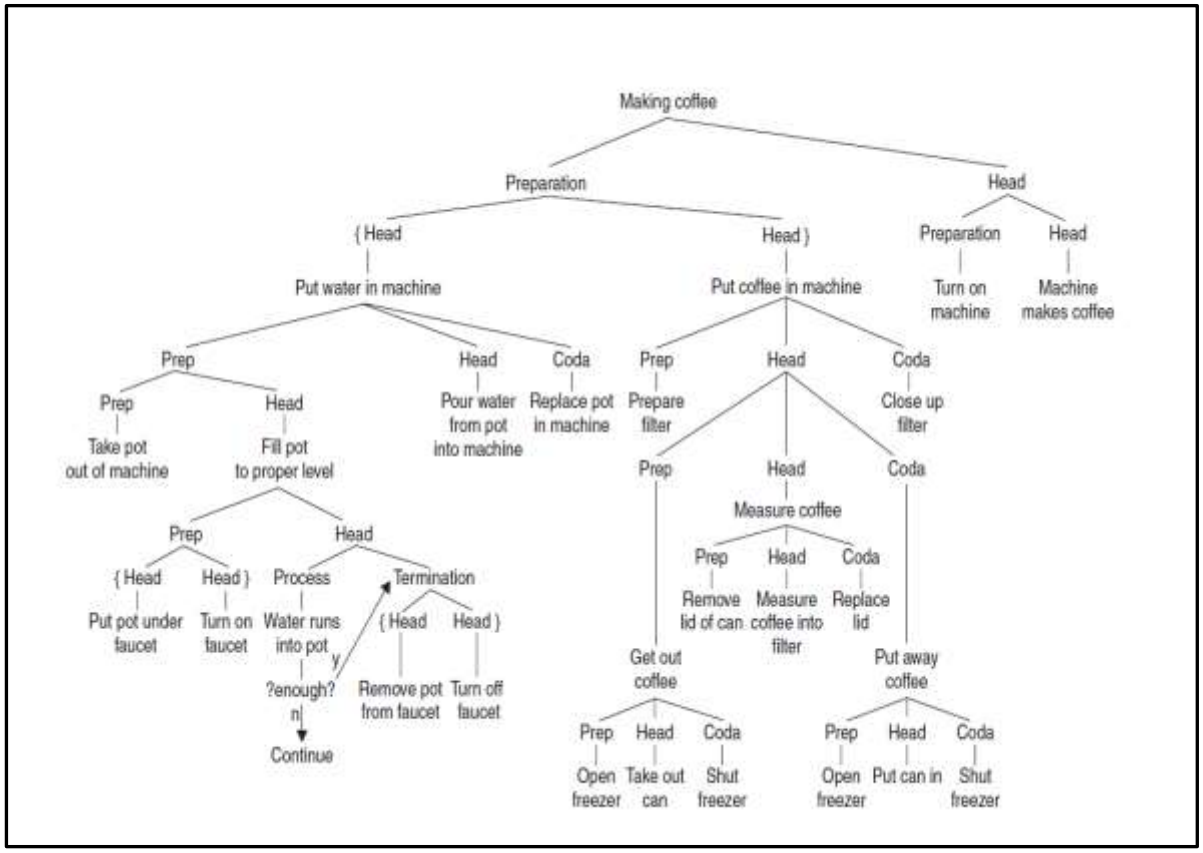
It is no surprise that making coffee is recursive. The actions are nested one within another so that one opens the freezer door before taking the coffee out, and at each step, the ‘head’ or main action is preserved. Figure 4 (below) shows how this everyday task is composed of a number of actions and sub-actions which combined produce the action of ‘making coffee’. Jackendorf describes the process of ‘putting water in the machine’:

> “The Head consists of actually pouring water into the machine from the pot. But in order to do this, one must first measure water into the pot – Preparation – which in turn is organised into Preparation plus Head, and each of these has further organisation. And once one has poured water into the machine, one must replace the empty pot in the machine - the Coda.” (Jackendorf, 2009, p202)

He distinguishes between coffee making and language. In particular he points to the bracketed actions on the left hand branch of the tree headed ‘Termination’. It is of no

consequence which are completed first ‘Remove the pot from the faucet’ and ‘Turn off faucet’. The far right hand branch headed ‘Coda’ describes actions such as ‘Putting away coffee’ which restores the system to its initial state. It is interesting that there is no parallel in language to this process. It can be seen from the figure that the activities are parsed into three types: ‘Preparation’, ‘Head’ and ‘Coda’. These are the equivalent in action of the different kinds of words in language. In the same way the intransitive verbs cannot be mated with noun, so ‘Preparation’ cannot be mated with a ‘Coda’ without an intervening ‘Head’.

Figure 4 Recursion in Coffee Making



Source: Jackendorf, 2007, p202.

One interesting difference between action and language is the possibility in there being two heads in an ‘action phrase’. For example, in the left hand step ‘Preparation’ (below ‘Making Coffee’) there are two heads, ‘Putting Water in the Machine’ and ‘Putting Coffee in the Machine’, rather than a head and a preparatory step. In other words both steps are of equal significance. But here Jackendorf may be in error. The head is actually ‘Putting Coffee in the

Machine' as the purpose of the complete action is to make coffee *and not tea*. But sometimes the sub-actions may be of equal significance and there may indeed be two heads.

Let us now change Jackendorf's assumption that his analysis describes the action of a single person making coffee and assume that I am making coffee in collaboration with someone else. If I make the coffee by myself then it does not matter, for example, whether I put the coffee or the water in the machine first. Still to make coffee by myself there must be some order in what I do. If I 'Shut the Freezer' before 'Taking out the can' no coffee gets made.

But suppose that I share an office and a coffee machine with a colleague and we agree to share this urgent morning task then it will matter a great deal which of us puts the coffee in the machine and which the water and in what order. If we have no agreement on our respective coffee making duties and their timing, then there will be collisions and spills as we both reach for the coffee jar and collide at the sink. It follows that where there is collaboration, a convention is necessary if confusion is not to result. It does not matter who puts the coffee in the machine first, but it does matter that my colleague and I agree on (or accept) a convention on who does what, when and how.

But what is true of a simple task like making coffee is true *a fortiori* of complex operations like the Marshall-Menger example discussed earlier. Like language economic activity is characterised by parameterisation. For example, in building a new railway, locomotives and rolling stock must be constructed with the same gauge. Take two railways, GWR and SWR, which employ different gauges, then engines and rolling stock designed with the GWR gauge cannot run on the SWR and *vice versa*. The railway companies have different gauges in the same way that English and Japanese are respectively *Head Initial* or *Head Final* languages, or the agreement with my colleague over our coffee making on who puts in the water and when. There is no intrinsic advantage in the Head Initial or Head Final parameter and similarly there is no (or little) advantage in the broad over the standard railway gauge. If locomotives are not constructed to the right gauge parameter then they cannot be 'merged' into the railway and moved upwards in the hierarchy of tasks needed to complete the construction (and operation) of a national railway system. To use another parallel, the difference in gauge is syntactic rather than semantic. Both gauges have the same function (they are semantically identical) but are different in width (they are syntactically different).

In the same way that sentences can be well-formed syntactically but meaningless ('Green ideas sleep furiously') so a business may efficiently produce a good for which there is no demand. As meaning is to language, so utility is to business.

Railway gauges are only one of a large number of parameters involved in business activities, coffee making and entrepreneurial innovation. A small sample from a vast array of such 'node' standards would include: monetary units; weights and measures; standard and Philips screws and screw drivers; left or right hand driving. This analysis of economic activity suggests that the activities of linguists and economists are similar in some respects. In summary, we have suggested that recursion operating through MERGE applies to a variety of human activities including economics and business. In other words, much of human activity is permeated by recursion and recursive planning and this necessarily involves parameterisation.

8. Conclusion: Humans Infinitary, Syntactic and Moral

This chapter has analysed how the human power to collaborate in complex structures permeates a wide variety of human activities. This recursive power has two important features which are important to the development of the argument.

First, the recursive power of human beings allows us to form hierarchies of specialisation in a range of human activities, ranging from two people making coffee to Palaeolithic tool making and entrepreneurship in business. The infinitary and recursive powers of humans make possible the complex collaboration that constitutes the division of labour. Without them we would be in the position of our fictional Smithian dogs whose simple contractual relations would make them only a little better off than real canines because of the limited character of their contractual collaborations. Given that so much depends on these practices it is important that they should be done well. As we shall see in chapter 9 where there is complex collaboration there is agreement and contract, which are eased by virtues that minimise their costs.

Second, human collaboration is syntactic. This means that our economic as much as our 'language transactions' are made possible by conventions, which in our economic affairs are

arbitrary to a significant degree.[45] Thus if I use a coffee machine by myself it matters little whether I first fill it with water or first put in the coffee. But if I make coffee jointly with someone else we need to decide which of us is to do what and when to avoid collisions and spills. Again, we *ought* to avoid such accidents (and their complex economic equivalents). As we shall see in chapter 9 such economic parameterisation requires a type of trust, 'Ostrom Trust', which is required to establish and maintain economic parameters. This means both accepting existing rights and standards and seeking to establish any necessary new parameters with enthusiasm.

Why are these conclusions so important for the argument? In the first place, they explain how specialisation has its origins in human nature. In just the same way that beavers have the power to make dams and lodges, recursive speech and action are human powers. We can now assert that the (contract based) division of labour is one of the 'differences with a difference' that separate human beings from animals – see chapter 1, page 31ff. Further this power includes 'discrete infinity' which enables the plasticity that gives human beings the ability to carry out a multiplicity of different activities singly or in collaboration with others. Unlike the fictional Smithian dogs that we described at the beginning of this chapter, our contractual relationships are unbounded.

In the second place. we have shown that this power must be exercised syntactically when we collaborate. Parameterised conventions make complex collaboration possible by the use of understandings of, for two of numerous possible examples, Head Initial of Head Final (endocentricity) in language and uniform gauges in railways.

Thirdly, the analysis illustrates an important distinction between solitary action (as in the coffee making example) and collaborative action. In the first case the constraints are largely physical. To make coffee we have to put the coffee in the machine. But in the collaborative case we must put the coffee in the machine *but also agree who is to put in the coffee and who the water and in which order.* In turn this points to two normative factors which the examples isolate. First, there is the requirement that the plan is achievable and second that we must follow the syntactic rules that allow us to collaborate.

[45] It is wholly arbitrary that the standard railway gauge is 4 foot 8 1/2 inches rather than 4 foot 10 inches. However, it is not arbitrary but is constrained by technical factors that railway gauges are not 20 foot 3 inches.

Chapter 7 The Division of Labour

1. Introduction

In the previous chapter the human power of infinitary recursion was described as it operates in business and economic innovation and in more basic human activities. In this chapter the analysis is extended to the division of labour.

In chapter 1, we saw that Hans-Johann Glock argued that one of the striking features of human beings which constituted an 'anthropological difference' was co-operation which included (possibly) the division of labour. (See chapter 1, page 32) In the current chapter we will show that the division of labour is indeed an important feature of human economic collaboration and that is both productive and ramified. It is an expression of the recursive power described in the previous chapter.

The term the 'division of labour' is long established, and it was first used by the French writer, Henri-Louis Duhamel du Monceau, who used the term 'division de ce travail', or 'division of this work' in his introduction to a description of pin-making in his *Art de l'Épinglier* (1755). It seems certain that the term was translated and used by Adam Smith as the 'division of labour' in his famous discussion of pin-making in *The Wealth of Nations*. (Smith, 1981 / 1776, p15ff). The phrase is not wholly satisfactory as, although it recognizes the centrality of specialization, it does not express the fact that specialization is done more often than not through collaborative exchange. Hence the phrase should be taken to mean 'productive specialization through collaboration'. Collaboration here covers both the case where the activities are coordinated by contract in a market setting and the case where they are coordinated by a controlling mind within a family or firm.

In chapter 4 we argued that specialization and the division of labour were implicit in the exercise of the human power to 'bind the will' of others. To contract just is to specialise. As we saw in chapter 6 some bindings of the will often involve the mutual acceptance of standards or conventions. These may be linguistic, or range over a huge variety of different human activities including, money, weights and measures, railway gauges, screw sizes, and the ordinary understandings and conventions of everyday life. But primarily 'will binding'

involves one type of contract or another. If you do this, I will do that.[46] As we saw in Chapter 4 contract comes in a variety of different flavours, from simple understandings to complex enforceable business contracts. In this chapter we will focus on business contracts, as the resulting specialization is where their benefits in terms of economic welfare are most evident.

2 Precursors of Adam Smith: Petty, Hutcheson and Ferguson

The division of labour was described, or perhaps rather hinted at, by Plato, Xenophon, Mandeville and Hobbes. But the first time that it was analysed in an ostensibly economic treatise was by Sir William Petty (1623-1687). In his *Political Arithmetick* Petty uses it to explain how a small country like Holland could be so prosperous compared to larger countries. Specialisation and the resulting productivity are made possible by Holland being compact and by its good water communications. (Petty, 1899 / 1690, 248ff)

Francis Hutcheson (1694-1746) was a major influence on Adam Smith and in *A System of Natural Philosophy* (Hutcheson, 2014 / 1755) he anticipated Smith in two respects. First, he points out that the division of labour is 'well known' to be a source of increased productivity. Further he explains that this is the result of the improved 'skill and dexterity' that the division of labour makes possible.

Adam Ferguson (1723-1816) discusses the division of labour in his *An Essay on the History of Civil Society* (Ferguson, 1966 / 1767). He emphasises the productive power of specialisation, its dependence on peace and that it is the means by which the 'hunter and warrior' are turned into the 'tradesman and merchant'. (Ferguson, 1966 / 1767, p181) He emphasises that: "Every undertaker in manufacture finds, that the more he can subdivide the tasks of his workmen, and the more hands he can employ on separate articles, the more are his expenses diminished, and his profits increased." (Ferguson, 1966 / 1767, p181)

3 Adam Smith

Adam Smith's (1723-1790) analysis of the division of labour is the centrepiece of his explanation of the 'nature and causes' of the 'wealth of nations'. His discussion of the

[46] Agreements and understandings can also take the form of both parties agreeing to accept the same convention.

division of labour begins in *'Chapter I Of the Division of Labour'* of *The Wealth of Nations* (Smith, 1981 / 1776, pp13-24).[47]

Smith explains that the most important factor in *per capita* National Income growth is the division of labour. By examining how it operates in 'some particular manufactures' he claims it will give a better understanding of the 'general business of society'. (Smith, 1981 /1776, p14) He then turns to a detailed examination of the division of labour in the making of pins. He selects such 'a trifling manufacture' because it could be better observed in a single 'workhouse' (i.e. workshop or factory) than more complex examples. Smith begins his discussion by declaring that a single person engaged in pin making might be able to make as few as one pin a day and could not make twenty. He then describes the multiple separate operations that are involved in pin-making under the division of labour. These may amount to about 18 'distinct operations' which "…in some manufactories, are all performed by distinct hands, though in others the same man will sometimes perform two or three of them." (Smith, 1981 /1776, p15) Then Smith points to the extraordinary addition to productivity that the division of labour creates. Taking the example of a small manufactory employing ten people he calculates that it could produce daily 48 thousand pins 'of middling size'. Thus, each worker could be said to produce 4,800 pins in a day. If each worker had worked alone he would have produced "…not the two hundred and fortieth, perhaps not the four thousand eight hundredth part of what they are at present capable of performing, in consequence of a proper division and combination of their different operations." (Smith, 1981 / 1776, p15)

Smith then concludes that the division of labour "…occasions, in every art, a proportionable increase of the productive powers of labour." (Smith, 1981 / 1776, p15) and that this increase in productive power explains why 'different trades and employments' are separated. It is most evident in countries that have the 'highest degree of industry and improvement'. Industry is most suitable for the division of labour and agriculture less so. "The spinner is always a distinct person from the weaver; but the ploughman, the harrower, the sower of the seed, and the reaper of the corn, are often the same." (Smith, 1981 /1776, p16) And although the division of labour in agriculturally rich countries is often greater than

[47] All references to the *Wealth of Nations* are to Vol 1 of the Glasgow Edition.

in poor it is never very extensive. Thus, Smith asserts, the price of corn is not much more in Poland than it is in France as the division of labour is less extensive in agriculture than in industry.

Smith next sets out three reasons why the division of labour enhances productive power. First, it increases the dexterity of a workman "…by reducing every man's business to some one simple operation, and by making this operation the sole employment of his life." Second, it saves the time involved in "…passing from one sort of work to another…". Third, labour is "…facilitated and abridged by the application of proper machinery". (Smith, 1981 / 1776, p18/19)

Smith states than many inventions have been made by workmen seeking to "…facilitate and quicken their own particular part of the work". (Smith, 1981 / 1776, p20) But he admits that many inventions are due to the makers of machines who form a specialist trade of their own. Further inventions may be made by 'philosophers' who are "…often capable of combining together the powers of the most distant and dissimilar objects." (Smith, 1981 / 1776, p21) Smith claims that 'philosophers' are specialists like other workers. In his *Lectures* he explains that the invention of the plough is attributed to the farmer, the hand-mill to the slave and the waterwheel and steam engine to the philosopher.[48] (Cannan, 1937, p10 fn23)

Smith completes Chapter I by describing the benefits that are brought by the division of labour. "It is the great multiplication of the productions of all the different arts, in consequence of the division of labour, which occasions, in a well-governed society, that universal opulence which extends itself to the lowest ranks of the people." (Smith, 1981 / 1776, p22)

In Chapter II, Smith makes three highly significant points, two of which we have previously discussed. First, that the propensity to exchange is unique to human beings, a point we reviewed in chapters 2 and 4. Second, that exchange is based on contract and property ('mine' and 'yours') and involves contract, reviewed in chapters 4 and 5. Third, that the division of labour and the increasing prosperity that it brings are the expression of facets of human nature, which we analysed in chapter 1. Smith also points out that specialisation

[48] By 'philosopher' Smith means an engineer like James Watt.

results from differences in talents but emphasises that it is an active process. In other words, we actively *choose* our specialism.

In Chapter III, Smith explains that it is "…the power of exchanging that gives occasion to the division of labour, so the extent of this division must always be limited by the extent of that power, or, in other words, by the extent of the market." (Smith, 1981 / 1776, p31) He points out that it is in large towns that it is easiest for specialist workers to earn a living. He gives the example of a porter who can only have employment in a 'great town' and that "A village is by much too narrow a sphere for him; even an ordinary market town is scarce large enough to afford him constant occupation." (Smith, 1981 / 1776, p31) He points out that in a 'desert country' like the Highlands of Scotland, "…every farmer must be butcher, baker and brewer for his own family." (Smith, 1981 / 1776, p31)

Smith then explains how the extent of the market is increased by efficiency in transport. He gives the example of the relative cost and inconvenience of carrying heavy goods between London and Edinburgh by land and by water. He concludes that:

> "Where there is no other communication between these two places [i.e. Edinburgh and London], therefore, but by land carriage, as no goods could be transported from one to the other, except such whose price was very considerable in proportion to their weight, they could carry on but a small part of that commerce which at present subsists between them, and consequently could give but a small part of that encouragement which they at present mutually afford to each other's industry." (Smith, 1981 / 1776, p33)

Smith then argues that most often prosperous countries have the advantage of easy access to the sea and river transport. He states: "The nations that …appear to have been first civilized, were those that dwelt round the coast of the Mediterranean sea." (Smith, 1981 / 1776, p34) Here Smith recapitulates Petty's argument. But countries that have access to a waterway like the Danube cannot exploit it if other countries have the power to obstruct it.

In Chapter IV Smith discusses the origin and usefulness of money. Money, he argues, only appears "…once the division of labour has been once thoroughly established". (Smith 1981 / 1776, p37) Like good transport, it facilitates the division of labour as without it the power of exchanging can become 'very much clogged'. (Smith, 1981 / 1776, p37) "The butcher has

more meat in his shop than he himself can consume, and the brewer and baker would each of them be willing to purchase a part of it. But they have nothing to offer in exchange, except the different productions of their respective trades, and the butcher is already provided with all the bread and beer which he has immediate occasion for. No exchange can, in this case, be made between them." (Smith, 1981 / 1776, p37) Faced with this dilemma, Smith explains that, "…every prudent man in every period of society, after the first establishment of the division of labour" must so manage his affairs that he has "…at all times by him a certain quantity of some one commodity or other, such as he imagined few people would be likely to refuse for the produce of their industry." (Smith, 1981 /1776, p37/38)

Smith then explains that, while numerous different commodities have been used as money, metals are preferred. Metals do not lose their value by decay and can be divided into small parts and reunited again. Smith emphasizes the importance of divisibility. If a man wishes to buy salt and only has cattle to sell, without money he is forced to buy salt to the value of a whole ox.

4 Successors of Adam Smith

Later economists elaborated Smith's analysis and three of the most prominent who did so in the 19th century were David Ricardo (1772-1823), Charles Babbage (1791-1873, and John Stuart Mill (1806-1873). Perhaps the most important contributor to the analysis of the division of labour was David Ricardo who introduced the concept of comparative advantage.

Ricardo, The Division of Labour and Comparative Advantage

Ricardo developed the concept of comparative advantage in analysing the case for free trade, but the principle holds good for firms and individuals as well as nations. For many purposes of economic analysis, national boundaries are of no significance. International trade is just the division of labour on a large scale. In reality, international trade is complicated by tariffs, quotas, anti-dumping rules, regulation and other forms of government intervention which tend to restrict the extent of the market.

The history of the division of labour as applied to international trade can be seen as part of the reaction of the classical economists and their successors to the fallacies of mercantilism and the supposed need of nations to accumulate cash if they wished to maximise their

power. This led governments to give bounties for exports and to impose tariffs on imports. Such policies provoked David Ricardo in his *On the Principles of Political Economy and Taxation* to advance what has become known variously as 'the principle of association', 'the law of comparative advantage', or 'the law of comparative cost'. (Ricardo, 1971 / 1817)

The principle states that if, for example, two parties are each producing two goods and the first party has an absolute cost advantage in producing both goods, both parties will gain from trade in specialising in the production of the good at which they have a *relative* advantage. Ricardo explains:

> "It would appear then, that a country possessing very considerable advantages in machinery and skill, and which may therefore be enabled to manufacture commodities with much less labour than her neighbours, may, in return for such commodities, import a proportion of the corn required for its consumption, even if its land were more fertile, and corn could be grown with less labour than in the country from which it was imported." (Ricardo, 1971 / 1817, p154)

Ricardo then gives the example of two men with two trades one with an absolute advantage and the other with a comparative advantage and asks a rhetorical question:

> "Two men can both make shoes and hats, and one is superior to the other in both employments; but in making hats, he can exceed his competitor by one-fifth or 20 per cent, and in making shoes he can excel him by one third or 33%; - will it not be for the interest of both, that the superior man should employ himself exclusively in making shoes, and the inferior man to making hats?" (Ricardo, 1971 / 1817, p154)

Ricardo's argument was proposed initially with respect to foreign trade, but its conclusion that both parties gain even in the case where one party as an absolute advantage in the goods it produces over a competitor with an absolute disadvantage in producing the same goods, holds good for individuals and firms as well as nations.

The principle can also be explained by identifying the opportunity cost of the party that has the absolute advantage. Imagine two parties, John and Jane, both producing two commodities, 'A' and 'B', and where John has an absolute advantage in producing both. But Jane has a relative advantage in producing 'B'. If there is no trade then John must give up a

part of his absolute advantage in producing A to work on B where he has a comparative disadvantage. In effect, he gives up doing what he is best at for something where his productive abilities are inferior.

Charles Babbage: The Division of Labour and Business Operations

The writings of the polymath Charles Babbage on economics are less well known than they should be, but he was an innovative analyst of the division of labour. His book, *On the Economy of Machinery and Manufacture*, was published in 1832 (Babbage, 1989 / 1832) and benefited from the rapid developments in machinery and manufacturing that had taken place in the 56 years since the publication of *The Wealth of Nations* in 1776.

Babbage distinguished between 'making' and 'manufacturing'. (Babbage, 1989 / 1832, Chapter XIII, p85/86) He sees 'making' as small and 'manufacturing' as large-scale production. Manufacturing, he thought, involved both the strict calculation of costs and the possible demand for any new product.

His book implicitly asks Adam Smith's question about the origin of economic growth and he comments on the "…vast extent and perfection to which we have carried the contrivance of tools and machines…" (Babbage, 1989 /1832, p4) His answer is fulsomely illustrated by examples of the "…advantages which are derived from machinery and manufactures seem to arise principally from three sources: (1) The addition which they make to human power, (2) The economy they produce of human time, (3) The conversion of substances apparently common and worthless into valuable products." (Babbage, 1989 / 1832, p6 – numeration added) Babbage follows Smith in emphasising the importance of money and argues that its use is facilitated by the bankers' clearing house. (Babbage, 1989 / 1832, p189ff) Babbage also comments that productivity is gained by making standardised items with specialist machinery. (Babbage, 1989 / 1832, p27)

Babbage's explicit discussion of the division of labour is contained in *Chapter XIX 'Of the Division of Labour'*. To an extent, Babbage follows Adam Smith in his list of its advantages. Babbage sets them out as follows: (1) saving time in learning one skill rather than many; (2) reduced waste of materials in learning only one skill; (3) saving of time by not moving from one occupation to another; (4) rapidity of operation acquired through frequent repetition of

the same process; and (5) the "…contrivance of tools and machinery to execute processes". (Babbage, 1989 / 1832, pp121-135)

Babbage next considers the factors that a 'projector' would take into account in setting up a 'manufactory'. These are set out in *Chapter XXV Enquiries Previous to Commencing Any Manufactory*. (Babbage, 1989 / 1832, p170-174) He claims that most of the enquiries relate to the cost of: "…tools, machinery, raw materials, and all outgoings necessary for its production." (Babbage, 1989 / 1832, p170) In addition, the likely demand for the new product needs to be discovered, the time in which circulating capital will be replaced, and "…the quickness or slowness with which the new article will supersede those already in use." (Babbage, 1989 / 1832, p170) Another important factor is the "…quantity of any new article likely to be consumed". (Babbage, 1989 / 1832, p170)

5 John Stuart Mill: Simple and Complex Co-operation

J. S. Mill's (1806-1873) *Principles of Political Economy* (Mill, 1883 / 1848) was first published 16 years after Babbage's *On the Economy of Manufactures*. Mill himself claims that the *Wealth of Nations* was "…in many parts obsolete" (Mill, 1883 / 1848, pvi) and aims to bring it up to date. His *Principles* can be counted to some degree as a summation of the earlier classical economists.[49]

Mill's discussion of the division of labour is set out in terms of co-operation among workers and he distinguishes between 'Simple' and 'Complex Co-operation'. Mill quotes liberally from notes to 'Wakefield's edition of Adam Smith' (i.e. *The Wealth of Nations*). Simple co-operation involved the collaboration of two people coming together to lift heavy weights. "In the vast majority of simple operations performed by human exertion, it is quite obvious that two men working together will do more than four, or four times four men, each of whom should work alone." (Mill, 1883 / 1848, p72 (Wakefield)) Mill gives examples of such simple co-operation: lifting heavy weights, felling trees, sawing timber, gathering hay in a short period of fine weather, draining a large extent of land in a short season, etc.

[49] It was used as a required text for the Oxford University economics course until 1919 when it was replaced by Marshall's *Principles of Economics*.

In contrast to 'Simple Co-operation', Wakefield and Mill identified 'Complex Co-operation' which Wakefield defines as when:

> "…one body of men having combined their labour to raise more food than they require, another body of men are induced to combine their labour for the purpose of producing more clothes than they require, and with these clothes buying the surplus food of the other body of labourers; while, if both bodies together have produced more food and clothes than they both require, both bodies obtain, by means of exchange, a proper capital for setting more labourers to work in their respective operations." (Mill, 1883 / 1848, p72)

Mill summarises: "The one [Simple Co-operation] is the combination of several labourers to help each other in the same set of operations; the other [Complex Co-operation] is the combination of several labourers to help one another by a division of operations." (Mill, 1883 / 1848, p72)

Mill quotes Wakefield as making another distinction: "Of the former [Simple Co-operation], one is always conscious at the time of practising it: it is obvious to the most ignorant and vulgar eye. Of the latter [Complex Co-operation], but a very few of the vast numbers who practise it are in any degree conscious." Wakefield (and Mill) then explain why this should be so: "…but when several men, or bodies of men, are employed at different times and places, and in different pursuits, their co-operation with each other, though it may be quite as certain, is not so readily perceived as in the other case: in order to perceive it, a complex operation of the mind is required." (Mill, 1883 / 1848, p72/73)

Mill concludes with remarks on the division of labour being limited by the extent of the market. He lists a number of limiting factors which include: small population, a scattered population, deficiency of transport, and a population so poor that its collective labour is "…too little effective, to admit of their being large consumers". (Mill, 1883 / 1848, p81) He also argues that in 'an early stage of civilisation' where demand is small in any particular place, industry only flourished where sea and river transport was possible. This, he thinks, is an argument for 'freedom of commercial intercourse' and that "improvements in navigation, ….roads, canals and railways, tend to give increased productiveness to the labour of every nation…" (Mill, 1883 / 1848, p81) Further he argues that the division of

labour is limited by the 'nature of the employment'. He gives the example of agriculture. "One man cannot always be ploughing, another sowing, and another reaping." (Mill, 1883 / 1848, p181)

6 The Division of Labour: The Coaseian Turn

In the 20th century, the analysis of the division of labour took a new turn. Until then it had largely focussed on cases where there is a 'single controlling mind', whether as paterfamilias, farmer or factory owner, dividing work amongst his spouse and children or employees according to their inclinations and abilities. These groups were felicitously described by Sir Dennis Robertson as:

> '…islands of conscious power in this ocean of unconscious cooperation like lumps of butter coagulating in a pail of buttermilk.' (Quoted in Coase, 1988 A, p35).

But often it takes the form of Mill's 'Complex Co-operation' between parties in the market where co-operation is 'unconscious'. In other words where knowledge of the use to which products are to be put is limited or absent.

No attempt had been made to account for the division of labour between firms (including for this purpose families) with a single controlling mind and in market transactions. This flaw was remedied by Ronald Coase (1910-2013) who posed the question of why, if the price system is so efficient in organizing the relationship between individuals, there is any need for firms? Why are not all business relations carried out by transactions in the market? Coase's answer is set out in a celebrated 1937 article, 'The Nature of the Firm'. (Coase, 1988 A / 1937) His answer was that it was the result of differences in transaction costs.

He explained the origin of his solution to the puzzle in his Nobel Prize acceptance speech, 'The Institutional Structure of Production' (Coase, 1992). His teacher, Sir Arnold Plant, had argued that co-ordination was provided by the price system and that there was a factor of production, 'management', whose role was to coordinate. But Coase then asked: "Why was it [i.e. management] needed if the pricing system provided all the co-ordination necessary?" (Coase, 1992, p5) Coase was also puzzled by the opposition of economists to planning in the Soviet Union which, it was claimed, involved the management of the economy as if it were one big firm. As there were huge factories in the West, why was it a satisfactory form of organisation in the West and not in the Soviet Union? Could scale be the only difference?

In ‘The Nature of the Firm’ he points out that there are two alternative means of economic coordination. In the first place, factors are moved in response to changes in price. “The price of factor A becomes higher than X than in Y. As a result, A moves from Y to X until the difference between the prices in X and Y, except in so far as it compensates for other differential advantages, disappears.” (Coase, 1988 A / 1937, p35) Coase continues: “Yet in the real world, we find that there are many areas where this does not apply. If a workman moves from department Y to department X, he does not go because of a change in relative prices, but because he is ordered to do so.” (Coase, 1988 A / 1837, p35) In other words, within the firm the co-ordination function is carried out by the ‘entrepreneur’ (Coase, 1988A, p37) and outside it by the market. Coase poses the question: “We have to explain the basis on which, in practice, this choice between alternatives is effected.” (Coase, 1988 A / 1937, p37)

The solution to the puzzle is that transactions in the market are costly, and if costs are too high they will lead to the decisions being removed from the market and internalised within the firm. Coase gives an account of the sort of costs that might be involved. The first, and in his view the most obvious cost of using the price system, is discovering the relevant prices, although this process can be eased by using specialist brokers or by using organised commodity exchanges. The second expense in using the market is that long term contracts may be more easily made and enforced within the framework of the firm. These may also protect the firm from the hazard of regular renegotiations and insulate it from a degree of uncertainty.

How is this relevant to the analysis of the division of labour? The explanation is that the division of labour is limited not only by the extent of the market, but also by transaction costs. If transaction costs are high both within the firm and on the open market, then the division of labour will be proportionately restricted. Indeed, the transport costs (and convenience) which so interested Petty, Smith and Mill, can be seen as a species of transaction cost.

7 Stigler, Diminishing Returns and the Division of Labour

The significance of the division of labour for the understanding of the firm was also analysed by George Stigler (1911-1991) in ‘The Division of Labor is Limited by the Extent of the

Market' in the *Journal of Political Economy*. (Stigler, 1951) Stigler asked the pertinent questions: If the division of is labour limited by the extent of the market, is there not a tendency towards monopoly? He poses the difficulty as follows:

> 'When Adam Smith advanced his famous theorem that the division of labor is limited by the extent of the market, he created at least a superficial dilemma. If this proposition is generally applicable, should there not be monopolies in most industries? So long as the further division of labor (by which we may understand the further specialisation of labor and machines) offers lower costs for larger outputs, entrepreneurs will gain by combining or expanding and driving out rivals." (Stigler, 1951, p185)

Stigler them comments that either this tendency exists or the division of labour is not limited by the extent of the market or that the principle is of little effect. This dilemma was ignored or perhaps was not perceived by Adam Smith's successors until it was revealed by Alfred Marshall. The latter's solution, according to Stigler, was threefold. First, Marshall held that there were economies of scale beyond the reach of an individual firm and, as Stigler puts it, "…outside the reach of the firm and depending on the size of the industry, the region, the economy, or even the whole economic world." (Stigler, 1951, p186) Second, Marshall claimed that since able entrepreneurs were mortal it was unlikely that any business could be managed long enough or well enough to achieve a monopoly. Third, Marshall argued that firms might have partial monopolies in which each faced a "…separate, elastic demand curve for its product – so that, with expansion of its output, the price would usually fall faster than average costs would." (Stigler, 1951, p186)

Stigler's way out of the dilemma posed by increasing returns to scale is to argue that Smith's doctrine simply ignores the internal structure of the firm. Conventionally firms were seen as entities that just purchased inputs and sold outputs. But Stigler argues that this is an over-simplification: each internal function of the firm will have different patterns of average costs.

Some functions will have falling and others increasing average cost curves. Still others will have falling then rising curves. In other words, as the production of each functional part of the firm increases, its costs will rise or fall according to whether the curve rises or falls.

Stigler then suggests that where the cost curve rises, it will be in the interest of the firm to shed that activity to a specialist business where the cost curve may fall as a result of the effects of specialisation and increasing returns to scale - perhaps as a result of serving many similar firms needing the same or a similar product. (Stigler, 1951, p188)

Stigler imagines a cycle of industry expansion and contraction where functions are shed to new specialist firms that take advantage of specialisation and large-scale production. Conversely where an industry is in decline and the need for the specialist function declines, the advantages of larger scale production are significantly reduced. Stigler summarises:

> "Broadly viewed, Smith's theorem suggests that vertical disintegration is the typical development in growing industries, vertical integration in declining industries." (Stigler, 1951, p189)

Thus, Stigler explains why production moves between firms in a cycle of increasing and then decreasing specialisation. The larger the scale of production, the greater are the rewards of specialization and *vice versa*.

8 Richard Epstein: The Division of Labour and the Individual

Richard Epstein elaborated Adam Smith's insight that the division of labour depended on differences in ability. Smith had argued that there are bigger differences in the abilities of dogs than there are in those of humans. (Smith, 1981 / 1776, p29/30) He contrasts the differences in character between a 'philosopher' and a 'common street porter' and argues that the difference is the result of the division of labour and not its cause. (Smith, 1981 / 1776, p28)

In his 2011 article, 'Inside the Coasean Firm: Why Variations in Competence and Taste Matter' (Epstein, 2011), Richard Epstein argued that an analysis of the firm solely (or mainly) in terms of transaction costs is mistaken and that competence and taste matter in the organisation of the firm. He accepts that: "Coase's great insight is that if the price system were costless to operate, the choice of business arrangements would not matter very much because all the common impediments to cooperation would disappear." (Epstein, 2011, pS42) In other words, if there were no transaction costs information would be free and the monitoring of performance would be effortless. But Epstein argues that there is one factor that Coase ignores. This is what he describes as "…the differences among individuals in

matters of competence and taste that they bring to any market setting" and comments that: "Competence continues to influence behavior as individuals participate in various types of business transactions as either lone actors or firm members." (Epstein, 2011, S45) The result of this diversity of talents is the possibility of substantial gains from trade and Epstein argues that these gains will be larger than those stemming solely from the reduced transaction costs of the firm.

Epstein claims that theorists of bounded rationality make the mistake of assuming that the limitations on human decision making are the same for all people. Writing of behavioural economics, Epstein comments:

> "Behavioral economics speaks with the same overconfident level of generality in listing the various intellectual infirmities that impede individuals from making rational choices. But once again the key point is that any recognition of these multiple cognitive problems does not carry with it any implication that all individuals suffer from the same impairments, of if they do, to the same degree." (Epstein, 2011, pS46)

One possibility, though, is that people with different 'intellectual infirmities' may be able to make gains from trade. Once the deficits become known explicitly then those who suffer from them may be able to trade with those who do not. As we will see in chapter 10, this makes for an important economic virtue. Good businessmen (and others) recognise their own limitations and buy the expertise from someone who has the competence they lack.

Epstein also points out that abilities and talents can change with the passage of time and experience. Competence, he claims, can change over a predictable life cycle in which individuals "…start slow, improve, peak, and eventually decline, perhaps at differential rates." (Epstein, 2011, pS46)

Epstein cites a study by Sumit Agarwal *et al*. to the effect that financial competence varies with age and that both younger and older adults pay higher rates of interest and higher fees than the middle-aged. (Agarwal *et al*., 2007) It follows that it is a mistake to think that there are not substantial differences between individuals in competence and aptitude and such differences will inform decisions about careers and jobs. Epstein writes quizzically: "…I shudder to think what would have become of me if someone had ordered me to become a

bench scientist notwithstanding my modest proficiency in the use of knife and fork." (Epstein, 2011, pS48)

Such differences in character play an important role in the organisation of firms. Differences in abilities and aptitudes will decide in part the roles individuals play in firms and in other organisations. As Epstein points out, "…in the choice of business structure, both the roles that individuals choose to accept and the form of the business have much to do with variations in competence and temperament across individuals. The choice of partners and employees is hardly random." (Epstein, 2011, pS51) In the same way that a businessman will employ a number of different machines he will assemble a team with complementary skills that will enable him to carry out his plans.

9 Defining the Division of Labour

Some general conclusions can be drawn about the division of labour by consolidating the analyses of economists (both pre-modern and modern) to describe this source of human plasticity and productivity. They can be summarised as follows:

i] *Human Universal* As we saw in chapter 4, the division of labour is a human universal – present in all men and in no race of animals. Although colonial insects, like ants and bees, also specialise it is not because of contract. Adam Smith's statement that: "Nobody ever saw a dog make a fair and deliberate exchange of one bone for another with another dog. Nobody ever saw one animal by its gestures and natural cries signify to another, this is mine; that yours; I am willing to give this for that." (Smith, 1981 / 1776, p26) has not been refuted despite an apparent counter example. (See page 33 above) The division of labour emerges from contract and exchange (chapter 4) and the infinitary recursive power of human beings (chapter 6). To contract with someone necessarily involves the division of labour. It is exemplified in contracts and exchanges within firms (and families) and also on the open market.

ii] *Active Specialisation* The specialisation that emerges from the division of labour is created by the conscious purposeful and normative actions of human beings. In this respect, it is wholly different from that of social insects. As we saw, Adam Smith explained that while there were greater differences between the various kinds of dog than between human beings, dogs could be of 'scarce any use to each other' because they lacked the ability to

make contracts. (Smith, 1981 / 1776, p30) (See page 33 above) But humans, being naturally more similar than the various 'races' of dogs, specialise creatively in a particular activity to make themselves useful to others. Specialisation also depends on individual abilities and preferences. (Epstein, 2011)

iii] *Contract and Property* The division of labour requires a system of law or lawlike conventions that make it possible for bargains to be specified, and made with the option of enforcement. Such contracts must include the possibility of exclusive control of physical and other resources - property which includes physical assets, land, buildings, machinery, trade-marks and patents. Without property collaboration *through exchange* is impossible. This was discussed in chapter 4 and 5 above.

iv] *Comparative Advantage* Not only is trade advantageous to both parties where each has a productive advantage over the other, but also where one party only has no absolute but only a relative advantage. By concentrating on where their relative advantages lie and exchanging their surpluses both parties gain even when one party is less productive in all respects. Although the principle was developed for analysing international trade, it has general application. (Ricardo, 1971 / 1817, p154)

v] *Limited by the Extent of the Market* For goods that have a large market, the division of labour will be naturally extensive. The extent of the market is often defined geographically, as was recognised by Petty, Smith and Mill. The division of labour can be carried out over wide geographical areas, hence the terms 'international division of labour' and 'globalisation'. While the extension of the division of labour is productive it is offset by the cost of transport, as was identified by Adam Smith who pointed to the cheapness of sea compared to road transport between London and Edinburgh. (Smith, 1981 / 1776, p33) Similarly, Sir William Petty claimed out that small compact countries such as Holland had a productive advantage. (Petty, 1889 / 1690, p248ff) But as George Stigler pointed out the principle will also apply to expanding and contracting industries. Expanding industries will tend to shed activities to specialist sub-contractors and in contracting industries, specialisation will become unproductive and businesses will become vertically integrated. (Stigler, 1951)

vi] *Limited by Transaction Costs* The division of labour is essentially a collaborative activity. But collaboration either through exchange or within firms is not costless and relative costs will determine the structure of the collaboration – either by exchange or through the management decision of a single controlling mind. (Coase, 1988 A) Transaction costs can be reduced by standardization. They are also constrained by the technology used, what Mill calls 'the nature of the employment'. (Mill, 1883 / 1848, p181). Some processes may be possible only when done on a large scale.

vii) *Money* The division of labour is facilitated by the use of money (and by institutions such as the bankers' clearing house) (Smith, 1981 / 1776, p33 & Babbage, 1989 / 1832, p189ff). The existence of money eases collaboration by making possible indirect exchange. Thus, if two parties have surplus goods that are of no use to each other, a generally acceptable commodity allows them to effect exchanges of their surpluses with other willing parties. Without money trading is limited to occasions where parties wish to make direct exchanges of one good for another. Money has the essential characteristic of standardisation and conventionality. It matters little what form it takes so long as it is fungible, divisible and generally accepted within a specified area or for a particular purpose. (Smith, 1981 / 1776, p37)

viii] *Standardisation* The division of labour leads to standardisation. This is the case for two reasons. First, it is easier to produce standard items through processes such as stamping, which involve specialist machinery. It is always easier to produce a number of similar or identical items rather than a variety. (Babbage, 1989 /1832, p27) Second, as we saw in chapter 6 (page 115ff) shared conventions and standardization ease collaboration. With standard products buyers know precisely what they are getting in the bargain and they can collaborate more easily with others adopting the same standard. This accounts for standards such as railway gauges, battery and screw sizes, left or right-hand driving, and a whole variety of other items whose characteristics are fixed conventionally. Without such conventions, collaboration through the division of labour would be severely handicapped. In some cases, the convention can be determined technically, but in others it may be arbitrary. Thus, there are technical limits to the possible width of railway gauges. But in all cases, it is important that the convention is shared. It is irrelevant whether a country has a left or right-hand driving rule, but vital that everyone follows the convention once established.

ix] *Increase in Productivity* A major theme in all discussions of the division of labour from Petty to Mill (and assumed by later writers) is that the division of labour enhances productivity. (Smith, 1981 / 1776, p15 & Babbage, 1989 / 1832, pp121-135) It is consequently a major (but not the only) source of economic growth. At root, its power derives from the nature of contract. As we saw in chapter 4 (page 71) a freely given contract results in the advantage of both parties – gains from trade. They also have the characteristic of Pareto efficiency: everybody is better off and nobody is worse off. It follows that contracts and the specialisation that they make possible are inherently productive. These gains ultimately derive from the 'good' that Elizabeth Anscombe claimed resulted from the exercise of the human power to 'bind the will' of others in promises. (Anscombe, 1981 C / 1969, p18ff)

x] *Competition, Innovation and Calculation* Competition encourages the careful calculation of costs of production and the prices of the inputs and outputs to be bought and sold. (Babbage, 1989 / 1832, p170-174) This is a reflection both of Adam Smith's argument that contracts are marked by deliberation and also of Elizabeth Anscombe's claim that contracts (as examples of 'binding the will of others') are done consciously. We only contract if we estimate (in some measure) that we will execute our plans by doing so. Such deliberation may be a *prima facie* assessment or a highly complex calculation of risks and returns. They will be stimulated by the actions of actual and potential competitors. They will also stimulate the use of new ways of working and the use of new inventions and machinery.

10 Conclusion

In this chapter we have described the division of labour in its many economic ramifications The argument of previous chapters allows us to conclude that from three human powers, (a) to make contracts; (b) to use property; and, (c) to form infinitary hierarchies of agreements, the division of labour emerges as a major source of human economic welfare. Without the use of any one of these powers, human economic activity would be impossible, defective or greatly impoverished. It is evident too that the most important of these human powers is the ability to contract (or more generally to create 'normative expectations'). Because of our power to contract, we are not like Adam Smith's dogs which for all their different abilities are of 'scarce any use to each other'.

And as we shall see in chapters 9 and 10 this moral power is subject to characteristic virtues and vices. We have seen how contracting and the division of labour is limited by transaction costs and given the productivity in which it results, the reduction of costs constitutes a number of important economic virtues as will be discussed in chapter 9. Similarly, individual behavioural weaknesses can be corrected by self-knowledge and trade with those who do not share them, a virtue discussed in chapter 10.

In the next chapter we will explain how economic welfare, as generated substantially by the division of labour, is a major constituent of 'eudaimonia' or human flourishing. In Part 3 we describe the characteristic economic virtues which facilitate the division of labour and the benefits that it brings.

Chapter 8 Welfare and Human Flourishing

1. Distinguishing Economic Welfare from Flourishing

This chapter will explore the relationship between economic welfare and human flourishing. The former refers to welfare generated by business and economic relationships. The latter refers to eudaimonia or the flourishing of human beings. We will argue that the two concepts are closely related but not identical. For example, a gain in economic welfare, if it results in excessive self-indulgence, may harm or diminish a person's flourishing. Conversely a poor but well-ordered life may yet be an example of eudaimonia. However, generally an increase in economic welfare brings an increase in flourishing. In short one may prosper without flourishing and flourish without prospering, but usually to thrive just is to prosper. In what follows we review this more common case.

The first step is to define both economic welfare and human flourishing. As we have supposed they indeed overlap, but we need to define clearly what we mean both by 'economic welfare' and 'human flourishing' before we can identify the contribution of the former to the latter.

2. Human Flourishing

The phrase 'human flourishing' is a common translation of the Greek word 'eudaimonia' which means literally 'good daimon', or 'good soul'. It is also often translated as 'happiness' and, as Daniel Russell has pointed out, the origins of the two words are similar. (Russell, 2013, p12) 'Happiness' drives from 'hap', as in 'perhaps', and means good chance and 'good daimon' has a similar implication. Anthony Kenny has suggested 'worthwhile life' as a translation of eudaimonia, but prefers 'happiness', or where necessary 'Aristotelian happiness'. (Kenny & Kenny, 2006, p14). We will use 'human flourishing' and 'eudaimonia' interchangeably and reserve 'happiness' for self-reported states which we discuss below.

Its modern use derives from the revival of virtue ethics in the 1950s and 1960s. One useful approach is to be found in Philippa Foot's, *Natural Goodness* (Foot, 2001, p26ff), where she takes the example of plants and animals to illustrate the concept of flourishing. This example is, as we shall see, particularly helpful for our argument. Following Philippa Foot let us take a cultivated flowering garden plant (not one from the hedgerow). When we inspect

it, we know what a good healthy example is like. What is the best size, whether it shows signs of disease, damage or parasites, the length and strength of its roots and whether it has shoots or buds if appropriate for the time of year? In short, we will know what would count as a good example to select from a tray of bedding plants.

But we will also know what soil it prefers (sandy and a low PH value, i.e. not too acid) and whether it flourishes in the shade or in direct sunlight. We will also know its best size, length of roots when bought in the garden centre and whether it needs fertiliser (and of what kind) and whether it is especially susceptible to drought in summer. But in addition to knowing what it requires for successful growth and flowering, we will need to know what we can expect if it is successfully cultivated. How high will it grow and what sort of flowers will it produce and at what time of year and for how long?

It follows that to get the best from the flowering plant that we bought, we need to know three sorts of thing about it. First, we need to know what counts as a good specimen, second what conditions it needs to grow well, and third what sort of flowers it has and how they will improve the border. Such facts about the plant will form part of its natural history and they can be put in the form of present tense unquantified Aristotelian categoricals (as we saw in chapter 2).

This sort of analysis can be applied to domestic animals. One important feature of any assessment of garden plants or domestic animals is that what we take to be their flourishing may depend on their usefulness to us. Thus, my judgement of the quality of a good potato plant, King Edward, will depend to a large extent on its ability to bring in a good (tasty) crop at the desired time of year – 'early' or 'late crop'. Similarly with flowers and domestic animals. Thus, good examples of Jersey cattle will be amenable to the wishes of stockmen, with cows being quiet and co-operative in the milking parlour and with bulls being easy to handle and showing minimal aggression. A herd of Jersey cattle where the cows are unhealthy and with below average milk yields and where the bull had gored the stockman would not command a premium at auction.

Does this compliance with human wishes vitiate the parallel between the flourishing of domesticated plants and animals and that of human beings? Should we rather use examples of wild animals or those being reintroduced into habitats where they had formerly lived by

re-wilders? But there is a sense in which human beings are indeed domestic animals. *Prima facie,* this seems to imply that human beings should be like fat cattle waiting patiently by the gate for the farmer to bring them their fodder at his usual time, or for dairy cattle to queue to enter their milking stalls. But this would be a mistake. The passivity and compliance of beef and dairy cattle is an important part of their nature as domestic animals and their role in meeting human ends. But these qualities while good for domestic cattle would be quite unsuitable attributes of humans, as they would neither reflect human dignity nor permit the exercise of the extensive powers that allow humans to benefit themselves and others. Take just three examples among many. First, the (unique) power of humans to make contracts or to create normative expectations is incompatible with the passivity desirable in the milking parlour. Second, human beings need the power of vigorous action to benefit themselves and others. Finally, as we argued in chapter 3 human beings who are good examples of their kind have a full set of virtues.

In the same way that we can discern that plants and animals are doing well, so we can make similar judgements about human beings. An important point to note about the character of plant, animal and human flourishing is that they are given by nature. It is important to note that there is no single test of whether a plant or an animal is 'doing well' but many. The bedding plant needs to have good roots *and* the ability to grow in sandy soil. Of course, we may in the case of ourselves and domesticated animals select those constituents of flourishing to which we may want to give priority. Thus, we will wish to give importance to docility in the case of large cattle and to honesty in the case of ourselves and our colleagues.

This can be illustrated by a recent proposed solution to the old controversy of whether Aristotle believed that it was possible to deliberate about ends. Aristotle makes apparently contradictory statements that while it is possible to deliberate about means it is impossible to deliberate about ends. (Aristotle, 1966, *NE,* p56, 112b12-20 & Cammack, 2013, p228) This statement seems to make Aristotle an irrationalist and an (unlikely) bedfellow of Hume. The latter claimed that reason did not determine preferences and famously commented: "'Tis not contrary to reason to prefer the destruction of the world to the scratching of my finger." (Hume, 1985 / 1739/1740, p463)

A convincing solution to this problem has been provided by Daniela Cammack. (Cammack, 2013) She explained that the solution was to be found by properly specifying ends and

means. If ends are defined as the constituents of eudaimonia then there can be no deliberation concerning them as they are given by nature. But there may be deliberation concerning the constituents of eudaimonia and how in a particular case they ought to be related to one another and given priority. In other words, we cannot deliberate whether health is part of human flourishing, but we can debate how much priority we give health over honour, for example. Similarly, in assessing cattle a stockman may be prepared to sacrifice milk yield for docility – or indeed *vice versa*. For our purposes, it matters little whether Cammack is right in her interpretation of Aristotle, but only that she provides a convincing account of the actual relationship between ends that are given by nature and the means to achieve them.

Table 1 sets out the constituents of eudaimonia and ends as elaborated in Aristotelian texts and analysed by Cammack.

Table 1 Eudaimonia and Human Ends in Aristotle

	Politics	*Rhetoric*	*Nicomachean Ethics*	*Eudemian Ethics*	*Metaphysics*	
Constituents of Eudaimonia						
Health	Yes		Yes	Yes	Yes	
Wealth	Yes	Yes	Yes	Yes		
Honour			Yes	Yes		
Good Reputation	Yes		Yes			
Culture		Yes		Yes		
Knowledge & Contemplation			Yes	Yes		
Pleasure			Yes	Yes		
Friendship				Yes		
Virtue	Yes		Yes			

Source: Cammack, 2013, pp239/240.

Health like wealth is listed four times by Aristotle in the texts examined by Commack - twice that of any other constituent of eudaimonia. The table is significant as it suggests that human beings, like plants and animals, must have a number of properties if they can be said to be good examples of their species or 'doing well'.

Someone is not doing well if he is lonely, poor, ignorant and uncultured, and with a short life-expectancy. To this Hobbesian list we can add dishonour and enjoying few pleasures. Of course, the degree to which a person can have these properties in some cases depends on their abilities. Some people may not be able to appreciate opera, but poverty and ill-health can be relieved, and no one need be dishonourable. On the other hand, for some people in desperate circumstances, as Philippa Foot points out, eudaimonia may be impossible. (Foot, 2001, p94ff) But this very impossibility and the catastrophe that it represents confirms its importance.

One way of determining whether someone is doing well is to show what they would lack if they were not. Given the description of the constituents of eudaimonia discussed above it is evidently the case that someone who is involuntarily poor is not doing well. This follows from the fact that wealth is one of the constituents of eudaimonia and hence it makes no sense to say of a poor man that he is doing well.

There is though one important qualification. This is that the poverty that detracts from eudaimonia must be involuntary. Poverty that is chosen for a good reason can indeed contribute to the eudaimonia of a person who perhaps has taken a vow of poverty in expiation for a wrong done or sees it as an act of piety. But such a rejection of wealth suggests that it is indeed a constituent of eudaimonia because seeking poverty only makes sense for the ascetic if wealth is a significant end. There would be no expiation if wealth were not a natural end of human beings. Indeed, we could not understand a person who pursued poverty for its own sake. If we were to meet someone who set out to live on the streets without possessions, we might seek to understand this as an attempt to explore social conditions, or to show fellowship with the poor, to expiate a vicious act or as a member of a religious order. All this we could understand and indeed admire. But we could not understand someone who sought out poverty without these or similar reasons. Such a person could well be suffering from a form of dementia and deserving pity and action to prevent them from harming themselves or being harmed by others. But more important for

our purposes we would not be able to understand what they were doing - unless we could give some psychiatric explanation of their behaviour. For someone to say that he just wants to be poor without any qualification or further explanation does not make sense.

But what about people who are not poor, who have sufficient food and shelter, but prefer to live modest simple lives, eschewing material comfort and modern conveniences? An example might be the simple life that Wittgenstein lived in the West of Ireland for periods in the late 1940s.[50] But with the exception of those that can be labelled 'rational ascetics' or the perhaps the 'voluntary poor', wealth is a part, indeed an important part, of human flourishing.

A crucial point that needs to be made explicit in the list of Aristotle's ends is that wealth is not an ultimate but is an instrumental end. We seek wealth for what we can do with it. No one seeks wealth (except pathologically) for its own sake. A miser might be such a person. In contrast no one seeks honour, for example as instruments for achieving some other aim. As we shall see in a discussion of the Capability Approach to welfare below, this is an important distinction as wealth gives us the capability to achieve certain states ('beings') and to perform various activities ('doings'). Thus. in the *Nicomachean Ethics*, Aristotle states explicitly that wealth is not an ultimate end. He writes:

> "The life of money-making is one undertaken under compulsion, and wealth is evidently not the good we are seeking; for it is merely useful and for the sake of something else." (Aristotle, 1966, *NE*, p7, 1095b 26)

Aristotle's use of the term 'compulsion' suggests that he recognises the irrational (or even) pathological state of someone who is seeking wealth for its own sake. Large amounts of cash (relative to other assets) are sometimes accumulated as a precaution against some expected or unanticipated misfortune or to take advantage of an exciting opportunity. But the accumulation of money without such a rationale is like the man who seeks poverty without justification. In both cases the observer is left bemused.

[50] When Wittgenstein visited his friend, M O'C Drury at the latter's cottage at Rosroe in Connemara in the West of Ireland, Drury served a substantial meal on the first day. But Wittgenstein protested: "Now let it be quite clear that while we are here we are not going to live in this style. We will have a plate of porridge for breakfast, vegetables from the garden for lunch, and a boiled egg in the evening" (Rees, 1984, p125)

3. Economic Welfare

Next, we need to define more precisely what we mean by wealth. So far, we have given it no precise definition. Wealth includes both capital and income; it is bifurcated - both a stock and a flow concept. A person with a high income but no capital is only well-off in a partial sense, likewise a person with much capital but little income. Of course, it is open for the one to use his income to accumulate capital and for the other to put his capital into income producing form. A man with a large income can save for a pension and a widow with a large house can move to a smaller one and invest the balance to improve her income.

Our next step is to show how wealth can, in the modern world, be characterised as *per capita* GDP (Gross Domestic Product) for individuals and as GDP for the nation. One difficulty with explaining the relationship between economic welfare as described by economists and eudaimonia is that the former is a primarily collective and the latter is an individual concept.

So far we have discussed human flourishing as it relates to individuals, but in what follows we will analyse how eudaimonia can also apply to states or nations. Countries, like people can be doing well, or ill. Countries doing well will be prosperous, with healthy citizens with long life spans. They will be cultured, well-educated, fully employed, with low rates of crime and enjoying a stable economy.

For our purposes we want to assess how wealth, economic welfare or *per capita* GDP contributes to the general well- being of nations. But first we need to define what we mean by economic welfare.

We can perhaps do no better than to begin with Alfred Marshall's famous (1890) definition of economics in *The Principles of Economics* which will give us a starting point.

> "Political Economy or Economics is a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of wellbeing." (Marshall, 1964 / 1890, p1)

Marshall's definition turns on the meaning of the phrase "…the material requisites of wellbeing…" He accepts that there are 'requisites of well-being' that are not material;

Marshall explains that religious ideals and material ends are the chief 'forming agencies' of the 'world's history'. He admits that sometimes the 'ardour of the military or artistic spirit' may predominate for a while, but he claims that economic motives are always present and are usually dominant.

This definition can be criticised as the boundary between economic and noneconomic activities can be drawn reasonably elsewhere. Thus, non-material 'requisites of well-being' can form part of economic activity. Is it reasonable to claim that the purchase of art does not form part of economic activity and to suppose that only physical welfare (i.e. food and shelter) is to be counted as economic welfare and the subject of economic analysis?

From our perspective it matters little where the boundary is drawn as we wish to explore how economic welfare affects eudaimonia. Whether economic welfare includes art is unlikely to be of significance to our argument. A serious difficulty is that Marshall's definition shows little connection with the concepts of contract and exchange, which we argued in chapter 4 were the direct consequence of the unique human power to 'bind the will of others' by promises, contracts and exchanges.

In contrast, A. C. Pigou's definition of economic welfare set out in his 1920 canonical, *The Economics of Welfare*, makes just this connection. Economic welfare is defined as

> "…that part of social welfare that can be brought directly or indirectly into relation with the measuring-rod of money," (Pigou, 2013 / 1920, p11)

It is helpful that it is near-identical to Aristotle's definition of Wealth[51] in the *Nicomachean Ethics*: "Now by wealth we mean all the things whose value is measured by money." (Aristotle, 1966, *NE*, p79 1119b 18) This definition is particularly helpful as it links economic welfare with exchange and contract. It has also a degree of precision which means that it can be straightforwardly represented by GDP for nations and by *per capita* GDP for individuals.

But there are a series of difficulties with turning definitions of economic welfare into statistics such as GDP. One difficulty, hinted at by Pigou's use of the term 'indirectly', is that calculating the quantity of welfare which is only 'indirectly' estimated by the 'measuring-rod

[51] From now onwards 'Wealth' will be spelt with an initial capital as indicating its equivalence to GDP.

of money'. Some economic activities shift between being directly and indirectly assessable by the 'money measure' and some do not enter into the exchange nexus at all. Thus, if I employ a gardener to keep my flower beds in order the transaction counts as economic welfare which is included in GDP, but if I do the work myself it is not. This means that economic welfare could appear to fluctuate as I moved from employing a gardener to doing the work myself. Such difficulties are notorious in calculating national income statistics. This problem is particularly contentious where one spouse does the unpaid housework. An indication of the difficulty is that the value of owner occupation is usually imputed in GDP statistics although there is no money transaction as there is in the equivalent case of renting.

Another obvious difficulty is that in times of rapid technical change when the price of goods falls (or when their quality improves), cash transactions may only imperfectly reflect the improvement in economic welfare. Suppose that the price of domestic robots falls dramatically as a result of technical change then the value of the robots sold may not adequately reflect their value to consumers. Their value might well be better represented by the cost of employing someone to do the equivalent work, rather than the price at which they are sold.

A further difficulty, as we saw, is that economic welfare is not necessarily a stream of goods and services or even a simple flow concept. What are we to make of a society or an individual whose prosperity is not sustainable? Obvious examples would include environmental damage, failure to take steps to mitigate global warming, soil exhaustion or failure to maintain a stock of capital goods, or indeed any of the array of (un-internalised) externalities.

Another difficulty is in estimating the degree of inequality and weighing the importance (if any) that it has for welfare. Inequality is often estimated by the Gini coefficient which measures differences in incomes. A coefficient of 1 represents complete inequality with one person having all the income and everyone else (in a given population) having none. A coefficient of 0 represents the case where everyone has the same income. In recent years coefficients have ranged between 25 and 46 for western industrialised countries with Britain having a coefficient of 35 in 2015 which is at the mid-point of the range. The figure for the US was 45. But again, there is the complication that income is a flow concept and the Gini

coefficient does not account for inequality in property ownership which is a stock concept. A country might have a low Gini coefficient, but asset ownership might be heavily concentrated amongst a very few. In 2015, 1% of the British population owned 20% of the assets but in 1900 1% of the population owned 74% of the assets. (Atkinson *et al*. 2017) Weighing these different inequalities for their importance for eudaimonia is difficult. Does a low Gini coefficient offset a high level of asset ownership concentration? Or *vice versa*? Indeed, is a high (but declining) asset concentration a price worth paying for higher economic growth and rapid poverty reduction?

These difficulties can be also illustrated by the distinction between absolute and relative poverty. One might suppose that absolute poverty was an important (if not the most important) measure of a society's well-being and it is evident that in western countries absolute poverty has decreased in the last 20, 50 and 100 years.[52] Even the poorest now enjoy goods and services that were once only available to the very few. More generally, one could argue that poverty has declined because food absorbed 60% of the lowest decile of household budgets 50 years ago whereas today the figure may be closer to 20%.

But still this does not quiet the claims of relative inequality. Does a country flourish less when relative inequality has increased? And can these different inequalities be offset against each other? Suppose that over a period of, say, 20 years absolute poverty decreased but relative poverty increased. Or suppose that things were the other way round – when over a similar period absolute poverty increased and relative poverty decreased?

Given these complexities, how much importance should we give equality and the absence of poverty in assessing eudaimonia? Perhaps the most obvious conclusion is that poverty measured both absolutely and relatively are important. Poor people and countries are not flourishing. On the other hand, *bare* inequality of income and property ownership seems less important; the fact that someone has more income or assets than I do does affects my well-being only to the extent that one gives value to equality or social justice. And the concept of social justice has been strongly disputed. (Hayek, 1976B, p62ff).[53]

[52] Real (i.e. after allowance for inflation) UK *per capita* GDP has increased by at least five times since 1900. (https://ourworldindata.org/grapher/gdp-per-capita-in-the-uk-since-1270?time=1793..2016)

[53] If my assets and income have been acquired justly it seems unjust for them to be taken from me merely because I have more of them than some other people. What have I done to deserve such treatment?

Such considerations have led to attempts by economists and others to replace (or to supplement) the GDP measure (or any of its standard variants) with a variety of indices and estimates intended to give a better view of the human condition than GDP statistics alone, whether using individual *per capita* GDP, or the figure for a country.

For our purposes most of these real difficulties with the concept of economic welfare and the derivative concepts of national income and GDP are not very important. We have assumed at the beginning of this chapter that economic welfare and eudaimonia diverge and in what follows we will attempt to isolate in some sense and to some degree the difference between economic welfare and human flourishing and to determine how the former contributes to the latter. All that we have to show is that economic welfare, even measured necessarily crudely as GDP, is a major contributor to eudaimonia. In other words, people and countries that are economically better off are usually doing better than poor people and poor countries.

There have been a number of attempts to supplement or revise GDP to give a better assessment of well-being and effectively to make the distinction that we are seeking to delineate. We shall discuss two: *Happiness Economics* and the *Capability Approach*.

Happiness Economics The economist Richard Layard has been an important proponent of happiness economics. The proposal involves taking surveys of the degree to which people consider themselves happy. This has given rise to some curious paradoxes. Individually and over short periods of time, increases in wealth bring about reported improvements in happiness. But over longer periods there appears to be no correlation between happiness and growth in GDP. This has given rise to what has become known as the Easterlin paradox after the economist who first identified it. Thus, in Britain, while real GDP grew by about 80% between 1973 and 2002, reported happiness, or 'Life Satisfaction' remained virtually unchanged over the same period. (Johns & Ormerod, 2007, p30) Similar results were obtained for public expenditure and happiness in the same period. (Johns & Ormerod, 2007, p35). Again, in the United States no consistent relationship was found between equality and happiness between the early 1970s and the early 2000s. What seems to happen is that a sudden increase in wealth will cause a jump in reported happiness, people soon adapt to their new more favourable circumstances, and then their reported happiness reverts to the previous norm. Happiness economics has led to the annual publication under the auspices

of the United Nations of the *World Happiness Reports* since 2012. (Helliwell, Layard & Sachs, 2019)

But the most serious difficulty with reported happiness is that it is a most unsatisfactory proxy for eudaimonia. Despite the same degree of reported happiness, a country that has a significantly higher GDP must indicate an improvement in well-being. A country that is healthier, better clothed, shod, housed, fed and entertained is evidently doing better that one that is not. No doubt if people in Victorian England were surveyed, they might well have reported similar degrees of happiness as recorded by 21st century Britons, but their well-being was evidently much less. Self-reported happiness is an unsatisfactory gauge of well-being, as the respondents to surveys have only limited experience on which to base their judgement.

The Capability Approach and the Human Development Index (HDI) The capability approach was originated by the economist Amartya Sen and the philosopher Martha Nussbaum. Its origin was Amartya Sen's determination to give expression in the analysis of economic welfare to famine and the mistreatment of women in his native India. The approach focusses on 'beings' and 'doings'. (Nussbaum & Sen, 1993) By 'beings' they mean states of welfare and by 'doings' they mean opportunities whether exercised or not.

An illuminating question is why economists should have found it so difficult to supplement GDP to give an index or even crude indicator of the constituents of eudaimonia other than Wealth. One possible explanation is our earlier conclusion that there can be deliberation over ends. In other words, given different circumstances and characters the results of deliberation may be different. People give different priorities to wealth, health and the other constituents of eudaimonia as shown in Table 1 above. It follows, for example, that the weights (one third each) for Longevity (i.e. health), Education and GDP in the *Human Development Index* are to a degree arbitrary. (UN Development Programme, 2020) Why should not the weights be different in different times and circumstances? A country (or an individual) might reasonably choose to sacrifice health for education (or the reverse) at different stages of its development. This is not to say that the attempt is mistaken. Even an arbitrarily weighted index will be better than GDP alone.

Still, GDP, for all its defects, has the advantage of having a kind of objectivity as it measures the value of goods and services that are (directly and indirectly) related to the cash nexus. In other words, it is the product of the unique human practices of exchange and contract that we discussed in Chapter 4. But more important as we shall see, Wealth or GDP *per capita* for the individual and GDP for the nation, are indeed master capabilities.

4. Economic Welfare – Wealth as Power (to do Good)

These difficulties aside, Wealth appears to be an important power in the sense that it provides the ability to do a wide variety of virtuous actions. Wealth provides the wherewithal for virtuous action and the most obvious is that it provides the resources for charity. Adam Smith quotes Hobbes: 'Wealth, as Mr Hobbes says, is power.' (Smith 1981 / 1776, p48), to which we may add the corollary that wealth gives the *power to do good*. This power may be exercised in a variety of ways and, of course, it may be abused. We discuss the uses of wealth by the Philanthropist in Chapter 11 (page 200ff). Some of the good actions made possible by Wealth may be done through the medium of collective choice where the virtuous practice of individuals may be attenuated. This is the distinction between someone giving to a medical charity and someone voting for a political party that has a preferred policy for the NHS.

In all the attempts by economists to adjust or improve GDP as a measure of human flourishing, it is remarkable that none have proposed removing GDP from their revised estimate of human well-being, both individual and collective. Even the HDI includes GDP, (admittedly with only a one third weighting). The reason is that GDP appears to be a master power in the sense that it provides the means for a wide variety of virtuous actions. As we saw, the most obvious is that it provides the resources for charity. A poor man can indeed be charitable, but he cannot be so on the same scale as the better off person. A rich country can afford a generous social security system and (perhaps unwisely) large amounts of foreign development aid. And it provides the wherewithal for promoting numerous other benefits which contribute to eudaimonia. These include health care, culture, education, and reduced amounts of poverty and crime. Take health for example, rich countries generally have citizens who are healthier and live longer than those in poor countries. Similarly, rich people live longer than poor people. These obvious conclusions are none the less important as they suggest that pursuit of Wealth (or *per capita* GDP) if successful can be the source of

a multiplicity of goods, including numerous non-economic benefits. The better-off person can do more good things than a less well-off person.

Let us take the example of Martha Nussbaum's famous list of ten 'central capabilities' (Nussbaum, 2011, p33/34), which *prima facie* have very little relation to economic welfare and explain why it enhances or even makes possible the 'capabilities' she describes. Her list includes the following with abbreviated descriptions.[54]

> *1) Life* – life of normal length and quality;
> 2) *Bodily Health* – good health including reproductive health, adequate food and shelter;
> 3) *Bodily Integrity* – freedom of movement and personal security;
> 4) *Senses, Imagination and Thought* – informed, educated with freedom of expression;
> 5) E*motions* – emotional expression and development;
> 6) *Practical Reason* - ability to form a conception of the good and to engage in critical reflection about the planning of one's life - liberty of conscience and religious observance;
> 7) *Affiliation* - (a) mutual respect and social action, (b) social bases of self-respect and non-discrimination;
> 8) *Other Species* – express concern for and in relation to animals, plants, and the world of nature;
> 9) *Play* - Being able to laugh, to play, to enjoy recreational activities;
> 10) *Control over One's Environment* - (a) Political – social and political interaction and the freedom of association and of speech, (b) Material – property ownership including land, employment on an equal basis. Freedom from unwarranted search and seizure and right to work using practical reason and to engage with other workers.

These 'central capabilities' are for the most part enhanced or made possible by economic welfare and the more economic welfare, the greater is the power to exercise these capabilities. In almost every case the better off person (or country) has the power to exercise these 'central capabilities' to a greater degree than a poor person or country. In some the connection is direct. Someone who is well-off can buy medical care and avoid debilitating work that might shorten their life span. Similarly, literacy, education and artistic production are made more practicable to the degree that the people or the countries in question are well-off. Again, in what Nussbaum calls 'Affiliation' wealth will make it easier for people to enjoy freedom and self-respect. Even in the case of respect for other animals and the world of nature this will be made more likely where people are rich rather than poor. Similar conditions apply to play. As to 'Control over one's Environment' the political

[54] A full version of Martha Nussbaum's Ten Central Capabilities is reproduced in Appendix 1.

and economic rights described (holding property, land and goods) are likely to be more secure in a rich country than in a poor one.

Still the capabilities that Nussbaum lists can be exercised to some degree by poor people or in poor countries, but individual wealth and national economic development make their existence and exercise easier and more practicable.[55]

Martha Nussbaum's analysis largely agrees with philosophers who have analysed human good from a Natural Law Theory perspective. (Chappell, 1998; Finnis, 1998; Gomez-Lobez, 2002; Murphy, 2001; Oderberg, 2000 & 2004) These writers include 'beings' and 'doings' that are similar Nussbaum's but in a more abstract form. Thus Sophie-Grace (formerly Timothy) Chappell in a long list includes: (i) Life, (ii) truth, and (iii) the knowledge of the truth (iv) friendship, (v) aesthetic value, (vi) physical and (vii) mental health, (viii) pleasure and (ix) the avoidance of pain, (x) reason, (xi) rationality and (xii) reasonableness, (xiii) the natural world, (xiv) people, (xv) fairness, (xvi) achievements, (xvii) the contemplation of God (if God exists). (Chappell, 1998, chapter 2, quoted in Oderberg, 2004, p129) Although these goods are described as for individuals they can easily be extended to communities and countries. As with Nussbaum's list of 'central capabilities', the achievement of the NLT theorists' listed 'beings' and 'doings' is made easier with increased economic welfare, and perhaps more important none are made more difficult.

5. Conclusion

In this chapter we have sought to demonstrate that economic welfare is, indeed, a contributor to flourishing, both individual and collective. As we suggested at the beginning of the chapter, usually both individuals and societies flourish when they prosper. Of course, there may be exceptions. Thus, resource rich countries can bring ruin on themselves by short-sightedly over-exploiting their natural resources and failing to establish national wealth funds for the time when the asset is exhausted. Still its current wealth allows for

[55]In their discussion of the capabilities approach both Sen and Nussbaum make a telling omission. The capabilities they argue for are the abilities to do various things. But amongst these 'doings' the ability to own a family farm, to start and run a small business and even to attempt to convert it into a major enterprise are not included. This is a serious omission as the practice of entrepreneurship is important to many people and it is an important source of economic welfare. The same is true of the NLT writers described below.

restorative action, and the same is true of individuals as the list of follies open to the rich is long.

Following Aristotle, we have seen that Wealth is indeed instrumental. Wealthy people and countries have the ability to practise many virtues. It is poor countries and poor people who find it more difficult to eschew the destruction of tropical forests than the inhabitants of rich countries. A land hungry peasant is more likely to ignore the appeals of environmentalists than a rich agriculturalist, and arguments and examples of this sort are easily multiplied.

PART 3 DESCRIBING THE ECONOMIC VIRTUES

Chapter 9 The Contractual Virtues

What are the economic virtues and how are they related to human nature and well-being? The link, as we saw in chapter 8, is supplied by the related concepts of economic welfare and human flourishing. And we saw earlier in Chapter 4, these characteristic human states and activities can be attributed to the unique human ability to 'bind the will of others' by the creation of 'normative expectations'. We saw also in Chapter 4 that Adam Smith's seemingly simple concept of contract is in reality complex and ramified. Indeed, there are many varieties of 'normative expectation' which extend from simple exchange (a purchase in a corner shop) to formal and informal agreements, and to contracts with the implication of enforcement, possible and actual. Some contracts may be settled, some enforced, some abandoned, and others may just be renegotiated. Some transactions are immediate and others long term. Further, in chapter 6, we saw that contracts can be part of deep hierarchical structures and in chapter 7 we saw that these reflect specialisation and are epitomised in the division of labour. In what follows we will explore how the costs and difficulties associated with both making and enforcing contracts create characteristic virtues (and vices).

1 Description and Prescription in Contract

One preliminary issue is the move from the descriptions of human activities by economists, lawyers and historians to prescriptions setting out the virtues that businessmen and others *should* practise (and which vices they *should* avoid). Why should the description of transaction costs allow us to develop prescriptions about economic behaviour? In other words how are we to justify the characteristic virtues related to agreements, both formal and informal?

Take the case of the costs of enforcing contracts. It is easy to see that if contracts did not need to be enforced then welfare would increase. Transaction costs absorb resources that could have other better uses. Substantial monitoring and enforcement costs do not contribute to human flourishing. Similarly, hindrances to making bargains whether resulting

from expense, inconvenience or bounded rationality do not promote human flourishing and hence should be mitigated by the virtuous businessman.[56] Kenneth Arrow asserted that:

> "It is usually though not always emphasised that transaction costs are costs of running the economic system." (Arrow, 1969, p48)

To use an analogy, transaction costs are like friction in a mechanical system. Without friction the efficiency of the system would be increased and to the extent that friction can be reduced the system will be more productive. Pursuing the metaphor, practices that reduce transaction costs are the lubricants of the economic engine.

There is a helpful parallel with the work of the philosopher H. P. Grice who argued in *Studies in the Way of Words* (Grice, 1989) that language was subject to what he called the *Cooperative Principle.* Grice argued the principle was a description of how people actually used language. He explained that speech was a cooperative process and not just a series of disconnected remarks and that it would not be rational if it were. "Our talk exchanges…", he argued, "… are characteristically, to some degree at least cooperative efforts; and each participant recognizes in them, to some extent, a common purpose or set of purposes, or at least a mutually accepted direction." He then sets out the "…the rough general principle which participants will be expected (*ceteris paribus*) to observe…". This is the *Principle of Cooperation* which, he claims, has four maxims. These are respectively the *Maxims of Quantity, Quality, Relation* and *Manner*. (Grice, 1989, p26ff)

The *Maxim of Quantity* requires that one's contribution to a conversation be as informative as necessary – enough information but not too much. The *Maxim of Quality* requires that our remarks be truthful and based on adequate evidence. The *Maxim of Relation* requires that contributions to a conversation should be relevant. And the *Maxim of Manner* proscribes the avoidance of obscurity, ambiguity and prolixity and enjoins orderliness. (Grice 1989, p28) Grice's intention is to show how in fact language works and his exposition is a combination of explicit description and implicit prescription. He is not explicit in saying that the *Principle of Cooperation* and its subsidiary maxims are prescriptions of what we *ought* to do. Still we can reasonably take that step and conclude that indeed we ought to follow

[56] Bounded rationality will be discussed in the next chapter.

Grice's Maxims if we want to communicate effectively. And people who do not communicate effectively do not promote human flourishing. Thus, Grice's description of the Cooperative Principle can and should be seen not just as a description of how in the main people conduct their conversations, but also explicitly as prescriptions of how they ought to do so.

Both human institutions, language and exchange, are essential for human well-being. We can easily imagine a dystopian world where Grice's Maxims are grossly and regularly breached. Similarly, we can imagine a world where contracts and exchanges are variously forbidden, penalised, grossly expensive or very inconvenient. Without language human beings would lose a vast range of their characteristic powers and abilities. Without exchange human lives would be unimaginably impoverished; we would be like Adam Smith's dogs who can be of little use to each other despite having the ability to carry out many different useful complementary functions. Furthermore, clear, truthful and relevant speech improves communication and good faith honest agreements which require little or no monitoring or enforcement foster economic efficiency and increase economic welfare. Clear speech and just contracting both increase human flourishing in different (but surprisingly similar) ways. The point of both sets of prescriptions is to make the respective institutions of language and exchange work better. We are obliged to do this because they promote human well-being.

Few economists venture to move explicitly from description to prescription. Prescriptions are rare in economics, implicit like Grice's and only occasionally expressed. Economists are keen enough to recommend policy, but only rarely do they argue for changes in morality. One exception was Kenneth Arrow who stressed the importance of norms 'including ethical and moral codes' in social action, but he remains an isolated case. (Arrow, 1969, p14) George Stigler claimed that "Economists have no special professional knowledge of that which is virtuous or just, and the question naturally arises as to how they are able to deliver confident and distinctive advice to a society that is already well equipped with that commodity." (Stigler, 1982, p3) Stigler concluded that: "economist-preachers… …have done very little preaching". (Stigler, 1982, p3)

In what follows, we will maintain the neo-Aristotelian principle that right action, the practice of the virtues, flows from education, leadership, habitual practice - and law, but only as a

last resort. While education, habitual practice and the law are described by Aristotle, Mark Casson added leadership as another means of promoting right action. (Aristotle, 1966, *NE*, p269ff 1179a 35ff & Casson, 2001 / 1991)

Our procedure will be similar to that of Alistair MacIntyre's analysis of the ethics of what he calls 'networks of giving and receiving'. MacIntyre explores the virtues of dependency. (MacIntyre, 2009, p126) He explains that much of contemporary ethics assumes that people are very much the same in their conditions and circumstances. He gives the example of people who are dependent on others – those who are sick or disabled. Someone who is disabled needs specific virtues appropriate to his situation. Thus, he will readily accept assistance without demur and with grace. And he will also avoid extravagant efforts to remain independent. MacIntyre argues that all too often ethicists have assumed that people are able-bodied. But this is not always the case. MacIntyre explains that if dependent we need, "…virtues of receiving: such virtues as knowing how to exhibit gratitude, without allowing that gratitude to be a burden, courtesy towards the graceless giver, and forbearance towards the inadequate giver." (MacIntyre, 2009 / 1999, p126).

We will rather focus on the ethics and virtues of what we may call 'networks of exchange'. In addition to giving and receiving people exchange one thing for another and such transactions need their own special virtues. As we shall see these are several and complex and are determined by the nature of different transactions and institutions. The procedure can be summed up as a form of 'Wirtshaftsethik' (Lambertini, 2019, p307) In other words from the nature of the practice and its role as enhancing eudaimonia we can deduce characteristic virtues for the different forms of transaction that exist in a modern market economy.

2 Coase and Transaction Costs

But before applying the analysis to different types of economic institution and their associated specific contracts and costs we need to explore further what is meant by transaction costs. As we saw in chapter 4 the theory originated with Ronald Coase. In his article, *The Nature of the Firm* (Coase 1988 A / 1937), he described how transaction costs mould economic transactions and institutions. Coase quotes with approval Carl Dahlman's

description of transaction costs as: "…search and information costs, bargaining and decision costs, policing and enforcement costs." (Dahlman, 1979) Coase's own description is as follows:

> "In order to carry out a market transaction it is necessary to discover who it is that one wishes to deal with, to inform people that one wishes to deal and on what terms, to conduct negotiations leading up to a bargain, to draw up the contract, to undertake the inspection needed to make sure that the terms of the contract are being observed, and so on." (Coase, 1988 D, p6)

This analysis amounts to a description of the roots of economic collaboration. If we are to collaborate then these are the things that we must do and there are costs and difficulties that we must accept or attempt to mitigate. And as we saw in chapter 7 (page 129) if transactions in the market are too expensive they will lead to the decisions being internalised within the firm. Coase gives an account of the particular sorts of costs that might be involved in this decision. The first, and in his view the most obvious cost of using the price system, is discovering the relevant prices, although this process can be eased by employing specialists and using organised commodity exchanges. The second expense in using the market is that long term contracts may be more easily contracted for and the contract enforced within the framework of the firm. These may protect it from the hazard of regular renegotiation and insulate it from a certain degree of uncertainty.

3 Williamson, the Market and the Firm

While transaction costs affect all contracts from simple market purchases to complex long-term transactions, they are carried out within a variety of different institutions. Oliver Williamson points out that there are three: (i) the market; (ii) the hierarchical firm or organisation; and, (iii) the hybrid that has features of the other two. (Williamson, 1991, p269) These are marked by different types of contract. Thus, market transactions will be relatively expensive if applied to long-term contracts, asymmetric relationships and employment. On the other hand, long term arrangements are unsuitable for straightforward sales and purchases. The various forms of contract associated with different forms of organisation flow from differences in transaction costs.

With this in mind, we will explore the role of transaction costs to reveal the respective characteristic virtues of different types of transaction. The amount and type of transaction costs depends on the economic institutions within which the transaction takes place, in the market, in an organisation such as firm, or in some intermediary association – such as a franchise or a regulated business.

Williamson argues that each form of governance "…needs to be supported by a different form of contract law." (Williamson, 1991, p271) and he contrasts 'classical' contract law with 'neo-classical'. In the former case it matters not who the parties are, but that the transaction is characterised as 'sharp in by clear agreement, sharp out by clear performance.' (Williamson 1991, p271 quoting Macneil, 1974, p738) But in more complex, ramified and asymmetric contracts 'neo-classical' contract theory will apply. He argues that "Classical contract law is congruent with and supports the autonomous market form of organisation." (Williamson, 1991, p271.) In contrast, Williamson combines 'neo-classical contract law' with 'excuse doctrine'. In other words, the parties to the transaction are relieved of 'strict enforcement' and they maintain their autonomy although they remain "…bilaterally dependent to a nontrivial degree". (Williamson, 1991, p271) Williamson explains:

> "Identity plainly matters if premature termination or persistent maladaptation would place burdens on one or both parties. Perceptive parties reject classical contract law and move into a neoclassical contracting regime because this better facilitates continuity and promotes efficient adaptation." (Williamson, 1991, p271)

According to Williamson, hybrids which, as we have seen, include franchise businesses and those subject to regulation - are also subject to 'neo-classical' contract law.

4 The Principle of Economic Collaboration

It is here that the parallel with Grice is particularly helpful. In the case of our language transactions he outlined, as we saw, *The Principle of Cooperation* and the four maxims that it implied: *The Maxims of Quantity, Quality, Relation and Manner*. Can we deduce a similar principle and maxims for our economic transactions? The difficulty is that the character of economic transactions is largely determined by their cost and the same is not true of

language. Speech that breaches any (or all) of Grice's Maxims is not more or less costly than speech that does not. Ill-consequences may follow but they are not direct economic costs,

What then are the virtues (and the associated maxims) that from the different kinds of exchange? And can they be put into a unitary scheme like Grice's *Cooperative Principle* and its maxims? Economic cooperation can be costly, but if these 'costs of running the economic system' are reduced the sum of economic welfare is increased. It follows that the existence of the institutions of economic exchange implies a principle parallel to Grice's *Principle of Cooperation*, which might be called *The Principle of Economic Collaboration*. This principle would require virtues designed to reduce transaction costs. These transactional virtues would be more than just the requirement that market participants would reduce their own transaction costs, but also that they support the institutions of economic exchange in general. This is because transaction costs diminish economic welfare and hence, most likely, reduce human flourishing as a result. It is easy to see why this should be the case. Imagine two parties, A and B, who have agreed to the sale of a house to their mutual advantage. Both parties will gain from the transaction – with each increasing his economic welfare. But now suppose that obstacles are placed in the way of the transaction. These might be in the form of taxes on the buyer or the seller or both. Alternatively, the obstacle might be in the form of difficulty in matching buyers to sellers with incompetent or collusive agents. In both cases the mutually beneficial transaction is frustrated to their mutual disadvantage. It is evident that a reduction in these expenses and difficulties would promote economic welfare and human flourishing.

One can begin to see in this simple case how the practice of various specific virtues would make the institutions of exchange work better. One way of setting out the specific virtues required by *The Principle of Economic Collaboration* is to analyse them by whether the exchanges are in the context of classical or neo-classical contract theory.

Classical Contract Theory Exchanges Take classical contract theory exchanges first, where transactions are simple and immediate in the buying and selling for consumer goods or commodities in a formal or informal marketplace. Here honesty appears to be the essential virtue. All parties to the transaction need to know exactly what they are getting. In the case of cash purchases rather than a swap of one good for another, the onus falls largely on the seller. The virtuous businessman must make it clear to the buyer exactly what it is that he is

buying. Thus, the description of the goods (or services) offered must be clear and truthful and here all of Grice's *Maxims* should operate. For example, advertising should be clear, truthful, relevant and appropriately short. In other words, honesty requires the seller to communicate effectively and accurately with potential buyers.

But honesty, even broadly interpreted, may not be enough. The seller should not exploit market inefficiencies and the ignorance of his customers. In some cases, the seller should inform his customer that better deals are available elsewhere. But this is a nice judgement and in most cases the seller is entitled to assume that the buyer knows his own mind. In the next chapter we will analyse to what degree (if at all) it is legitimate to exploit the behavioural biases and defects of counterparties.

Neo-classical Contract Theory Exchanges According to Williamson, neo-classical exchanges are characterised by what he calls 'forbearance'. The meaning of forbearance is best explained by an extreme example. Williamson describes a 32-year coal supply contract between the *Nevada Coal Company* and the *Nevada Trading Company*. (Williamson, 1991, p272) Williamson quotes K. N. Llewellyn as stating that such a contract represents a 'framework' within which adjustments to changing circumstances can be negotiated. (Llewellyn, 1931, p737) The contract required that the parties should re-negotiate their agreement when circumstances changed radically to the serious is disadvantage of either.

5 The Maxims of Economic Collaboration

Can we set out economic equivalents to the four *Maxims* that flow from of Grice's *Principle of Cooperation*? The difficulty, as we have seen, is that economic collaboration is so variegated that some economic transactions require the use of maxims which other transactions do not. Thus, the purchase of an insurance policy requires complete candour on part of the buyer as to the nature of the risk for which he seeks to buy cover. In contrast, the buyer of a house or a business owes nothing to the seller other than making good his payment. Still it is possible to list six general maxims that should characterize economic transactions. They are *The Maxims of (i) Honesty, (ii) Reliability, (iii) Forbearance, (iv) Market Efficiency, (v) Contractual Trust,* and *(vi) Ostrom Trust*:

(I) The Maxim of Honesty

Honesty is required in all parties to a transaction on all occasions. Neither party must deceive or seek to deceive the other. This requires truthfulness in advertising and in any other information about the good or the service being offered. This must include a fair description of any significant deficiencies. Take, for example, the virtue of honesty and its application in placing insurance risks, large and small.[57] Here the principle of 'utmost good faith' or in Latin 'uberrimae fidei' operates. It was described by the 18th century judge, Lord Mansfield, in the following terms:

> "Insurance is a contract of speculation...[58] The special facts, upon which the contingent chance is to be computed, lie most commonly in the knowledge of the insured only: the under-writer trusts to his representation, and proceeds upon confidence that he does not keep back any circumstances in his knowledge, to mislead the under-writer into a belief that the circumstance does not exist... Good faith forbids either party by concealing what he privately knows, to draw the other into a bargain from his ignorance of that fact, and his believing the contrary." [59] [https://en.wikipedia.org/wiki/Uberrima_fides#cite_note-1]

The point is that the party exposed to the risk that he wishes transferred is under a *special obligation* to set out the full relevant details of the risk. This extreme case which operates in a specialist market contains a principle that holds good more generally.

(II) The Maxim of Reliability

This Maxim has its own Latin Tag: 'Pacta Sunt Servanda' – 'Agreements must be kept', which is epitomized by the motto of the *London Stock Exchange* 'Dictum Meum Pactum' or 'My Word is My Bond'. This means that once a commitment has been made in a form that is not enforceable the parties still stick to their agreement. And when the agreement is sealed in enforceable form they will not seek to evade its terms unilaterally. It is easy to see why such reliability is important. We saw in chapter 5 how property gives control over resources so that the owner can complete his plans. Similarly, the ability to depend on the reliable

[57] The example is one of a big complex transaction, but the principle applies equally to an ordinary car insurance.
[58] Here 'speculation' means forward looking without any implication of impropriety.
[59] It might be thought that the obligation only applies to the buyer of insurance cover, but the underwriter needs to disclose fully that he has the wherewithal to pay any legitimate claim.

contract performance of those with whom he deals gives certainty. In its economic effect a breach of contract is much like a theft of property. Of course some breaches of contract are the result of *force majeure* rather than the intentional mis-behaviour of one of the parties reneging on his obligations. Security, in the form of charges against property or third party obligations, is designed to ensure that the terms of the contract can be met whether the cause is misfortune or dishonesty. (Williamson, 1983) It follows that reliability contains an element of prudence.

This does not mean, however, that the parties cannot abandon the contract by mutual agreement if it becomes irrelevant, unworkable or oppressive. This will require an intention by both parties to reach agreement which leads us to *The Maxim of Forbearance*.

(III) The Maxim of Forbearance

Williamson describes forbearance as the quality that characterizes the world of neo-classical contracting. It is the virtue needed by parties to long-term contracts which often have the form, as we saw, of a framework within which the parties can negotiate in good faith, if necessary. Such contracts are marked by the need for both parties to compromise to enable the business relationship to continue. Forbearance is particularly important for complex long-term contracts subject to neo-classical theory. In the example of the *Nevada Power Company* and *Nevada Trading Company* the contract contained the following stipulation:

> "In the event an inequitable condition occurs which adversely affects one Party, it shall then be the joint and equal responsibility of both Parties to act promptly and in good faith to determine the action required to cure or adjust for the inequity and effectively to implement such action." (Williamson, 1991, p272)

The contract further specified what was meant by an inequity (coal prices diverging by more than 10% from the average) and required information disclosure and made provision for arbitration (rather than litigation). The significant point is that certain adverse changes in the coal price (i.e. those within the 10% divergence) were to be absorbed by the adversely affected party. The importance of this well-specified example is that it shows clearly the role of forbearance in a contractual relationship. The parties agree to absorb adverse developments (within the specified range) and then to negotiate in good faith to 'cure or adjust for the inequity'. In perhaps more usual cases the required forbearance will be

implicit or perhaps not exist at all. Still *The Maximum of Forbearance* would require parties to act *as if* such an explicit agreement existed. As we saw in chapter 4, a *good* businessman would accept obligations to which he was not even implicitly committed. The intention is to preserve and strengthen an existing business relationship.

(IV) The Maxim of Market Efficiency

This Maxim would require market participants to promote market efficiency. Where there was market failure the Maxim would require actors to avoid exploiting market power from any monopoly or monopsony in which they found themselves. Further they should avoid any act or omission that puts them in that position. They should act and price their sales and their purchases *as if* they were operating in a competitive market. It would also require them to correct any significant misinformation on which a counterparty might act. There is no doubt that this can be difficult. It is notoriously hard to replicate what a market would have done had it existed. Still it is possible for a business to guess with some degree of accuracy what would happen if it did not exploit its market power. In any case its prime obligation is not to become a monopolist. If it finds itself in this position as a result of the bankruptcy of a competitor, its responsibility is to get out of that position by divestment or other means.

This can create difficulties where a business has a natural monopoly and may be regulated as a result. George Stigler developed the theory of regulation that suggested there was a tendency for businesses to seek regulation as this allowed them to exclude interlopers. (Stigler, 1971, p3) He claimed: "We propose the general hypothesis: every industry or occupation that has enough political power to utilize the state will seek to control entry." (Stigler, 1971, p5) (Control of entry also includes 'protective tariffs'.) Stigler explained that: "…regulation is acquired by the industry and is designed and operated primarily for its benefit". Businesses also sought subsidies, but these could be 'dissipated among a growing number of rivals.' (Stigler, 1971, p3) Previously Stigler and Claire Friedman (Stigler & Friedman, 1962) had examined the returns of regulated and unregulated electricity companies in the United States and concluded that regulation had had little effect on their returns. All this suggests that application of the *Maxim of Efficiency* to monopoly may have significant practicable difficulties. But some preliminary conclusions can be drawn. First, the good businessman or firm will not seek to exploit its market power. Second, it will not seek

to exploit any regulation of its market dominance to exclude new entrants or to handicap successful interlopers. Third, it will not seek subsidies from the government or the imposition of protective tariffs.

Another example of the application of the Maxim is the non-exploitation of information asymmetries. Before the 1986 'Big Bang', trading on the *London Stock Exchange* was governed by a *Dealing Code* which included the rule that a broker had to inform the 'jobber' (or market maker) if his prices were grossly out of line with the rest of the market. This would prevent what was known as 'dealing on a backwardation' where one market maker's offer price was less than another's bid - allowing the broker profitably to buy from one jobber and to sell to another. The effect of this rule was to increase the efficiency of the market by improving the flow of information amongst participants.

It follows that the *Maxim of Market Efficiency* is as complex as the means of exploiting market inefficiencies. Each inefficiency requires a separate micro-virtue that derives from the need to move towards competitive markets where possible or to mimic them where this is impracticable.

(V) The Maxim of Contractual Trust

Contractual Trust is to be distinguished from honesty or reliability as it can often be an active virtue. Not only should we be trustworthy, but we should also be appropriately trusting. Thus, trust is both a passive and an active virtue. Attempts have been made to justify it in terms of reciprocity. I trust you on the expectation that I will be trusted in return. But as Martin Hollis points out, there is a lacuna in this analysis. Often it is right to be trustworthy even when no advantage to you can come of it. (Hollis, 1998) Hollis argues that an appeal for people to become 'citizens of the world' would provide both a justification and an explanation of the existence of reciprocal trust. (Hollis, 1998, p143ff) But from the perspective of virtue ethics it matters little whether his attempt succeeds or fails. Given the great benefits of social co-ordination and prosperity which are acknowledged to come from trust (both passive and active), they impose obligations on the good man as much as promise keeping. Indeed, trust can be seen as a species of promise keeping, subject to the difficulty that it can be apparently irrational to both keep promises and to be trustworthy and trusting.

In *The Economics of Business Culture*, Mark Casson points out that a large proportion of transaction costs derive from the need to monitor and enforce contracts. (Casson, 2001) He points out that many of these costs result from a lack of trust. If people could be trusted to do what they had agreed, it would be unnecessary to monitor their compliance and (if necessary) to enforce what the defaulting party had agreed.

Trust is distinguished from forbearance in that it extends to all economic relationships rather than those just subject to neo-classical contract theory. Take for example the remark of Greg Smith a former employee of *Goldman Sachs* explaining why he had left the firm because its culture had changed. Formerly 'always doing right by our clients' had been at the centre of the firm's culture, but it had changed.

> "I attend derivatives meetings where not one single minute is spent asking questions about how we can help our clients. It's purely about how we can make the most possible money off of them." (Bruni & Sugden, 2013, p156)

Casson has little difficulty in showing that things would go much better if parties to contracts trusted each other and that this trust was justified and reciprocated. He gives a number of examples. In one case which he calls, 'Personnel Management', he imagines two manufacturing plants A and B. (Casson, 2001 / 1991, pp4-7) In plant A the manager is suspicious of his employees and supervises them continually to ensure that there are no slackers. He employs 'Fordist' or 'Taylorist' production methods which do not involve high skills as they make monitoring easier. But low skills means that the labour force is inflexible. He has to pay workers more because they find the work stressful. He distrusts trade unions because he does not understand their solidarity and the sympathy strikes of workers for their fellows who have been unfairly sacked. The manager will remind workers how easily he can sack them and replace them with others.

In Plant B in contrast the manager trusts his workers and supervisors are counsellors rather than policemen. Labour turn-over is low and there is an implicit contract that in hard times wages and employment will be maintained. The manager is happy for his workers to join a trade union and trusts them not to be 'trouble makers' (Casson, 2001 / 1991, p6) In turn the workers show little enthusiasm for the union which they use for collective bargaining and treat it as a friendly society, collecting fees and distributing benefits.

It is easy to see that Plant B is likely to be more productive that Plant A. For one, the costs of supervision are likely to be much less. Further given the loyalty of the employees training may prove worthwhile with work becoming less boring and repetitive. 'Fordist' and 'Taylorist' methods can be abandoned with advantage. Trust also permits the plant to be operated more flexibly as the employees will be confident that the manager will not treat them badly. It is significant that in Plant B the manager is both trustworthy and trusting.

Casson explains how trust (or its absence) can characterise whole towns and societies and (with rare exceptions) they will be more (or less) productive of economic welfare as a result. Indeed, it has been claimed that lack of trust characterises backward societies. (Banfield, 1967) Banfield argues that in the 1950s Southern Italy's lack of development could be explained by the lack of trust and the resulting absence of communal action. The fact that when Benfield was writing prominent Southern Italians of the time would not contribute to a public hospital, he cites, as an example of the lack of social capital. Francis Fukuyama extends the argument and claims that there is strong evidence that high-trust societies tend to be more prosperous than ones where trust is low. (Fukuyama, 1996) Fukuyama quotes Kenneth Arrow to the effect that trust is not itself a commodity, but something on which economic efficiency depends. (Fukuyama, 1996, p151/152)

(vi) The Maxim of Ostrom Trust

Ostrom Trust is the trust needed to create appropriate conventions for the exploitation of Common Pool Resources (CPRs). As we saw in chapter 5 there are particular difficulties in making the agreements necessary to conserve a CPR. Ostrom discusses four possible approaches. First, people can behave in a narrow self-interested way. Second, they co-operate only so long as there are no free-riders. Third, they are initiate co-operation in the hope that others will reciprocate. And fourth, there are genuine altruists who will collaborate whatever. Ostrom explains that the existence of these four different approaches was confirmed by empirical research. It follows that people can select which of the approaches to follow and these patterns of behaviour can be altered to improve the use of CPRs by the practice of a characteristic virtue.

But what form should this virtue take? Evidently no good person would act in a narrow self-interested way or even wait for an assurance that there would be no free riders. But is the

good person bound to "…always try to achieve higher returns for [his] group"? (Ostrom *et al*., 1999, p280) Suppose this left them open to exploitation by aggressive free riders. Or should they rather 'initiate reciprocal co-operation' wherever possible? This latter alternative could be seen as an Aristotelian mean between complete (and possibly self-destructive) altruism and reluctant co-operation on the assurance of no-free riders. The first narrow self-interested alternative can be ruled out. The attraction of the third alternative is not just the acceptance of trust but its active creation. Thus, the good man will accept trust where it exists but he will not assume that it will just emerge, Rather he will seek to create it. It follows that the *Maxim of Ostrom Trust* requires the active creation of trust between the parties where it does not exist and its support and maintenance where it does. It is an active and not just a passive virtue. The Maxim does not specify how businessmen should go about creating trust, but an important part will surely include credible declarations of their willingness to accept any agreement reached. It will also require active enthusiastic and persistent attempts to create it.

Ostrom Trust can also be seen as the syntactic virtue. As we saw in chapter 6 both linguistic and economic collaboration require parameterised conventions. In economics these include such conventions as railway gauges and screw sizes and types. Ostrom Trust will require the use of the prevailing parameter setting. In establishing a new parameter setting, plainly the virtuous businessman will negotiate to establish a convention, perhaps a railway gauge, which may be technically efficient but also most likely to promote the business generally. As an example take the competition between the broad and narrow railway gauges in mid-19th century Britain. The Great Western Railway (GWR) and its satellite companies under the influence of Brunel adopted a 7ft 1/4in gauge compared to the narrow or standard gauge of 4ft 8 1/2in adopted elsewhere. (McDermot, 1927, (Vol 1, Pt 1, p31ff)) The question is whether the GWR directors *should* have adopted the (possibly) technically superior gauge on their west of England network or the standard gauge used in the rest of the country. The *Maxim of Ostrom Trust* suggests that they should have adopted the narrow or standard gauge as this would have enhanced collaboration over the national railway network.

6 Conclusion

In this chapter we have argued that all economic transactions whether in the open market or within the firm or other group, should be subject the practice of a number of virtues. These improve the operation of the market and hence promote economic welfare and human flourishing. *The Principle of Economic Collaboration* and the *Maxims* that flow from it derive from the nature of contract in all its varieties. The latter will help to promote human flourishing by reducing the costs and inconveniences of these forms of human collaboration.

Chapter 10 The Behavioural Virtues

Transactions can be subject to flaws other than those directly associated with making contracts. These result from what has been described as 'bounded rationality' (Simon, 1982) or (perhaps preferably) 'quasi-rational economics'. (Thaler, 1994 / 1990) Psychological research over the last 50 years suggests that human beings do not always act in the rational fashion assumed and described by classical micro-economics. In this chapter we analyse the difficulties and costs resulting from the human propensity to make defective decisions as a result of these flaws. And we will propose, again following the example of Grice's *Principle of Cooperation*, a *Principle of Mitigation* and Maxims derived from it which, if practised, will mitigate these defects in economic decision-making. Our choices can, and often do, go wrong because they do not deliver the welfare that might have been expected had our decisions been fully rational. Our focus will be on those weaknesses that relate particularly to economic decisions and are economically important.

According to the assumptions of classical micro-economics humans are rational. It is assumed, for example, that human beings are rational in making choices and will always select the options that give them more of what they want. These assumptions include the belief that preferences are: "…stable, context independent and internally consistent." (Sugden, 2018, p7 and see Hirschfeld, 2018, p39). For example, if our preferences change with irrelevant circumstances – how they are presented to us – then we are going to be less well-off than if we disregarded the circumstances. Further if we are unfathomably fickle in forming and expressing our preferences, then again we would be less well-off than if we were more consistent.

Evidence suggests that our preferences and choices are not 'integrated'. People have a propensity to misjudge risk, to attribute success to their own astuteness rather than luck and to ascribe value to 'sunk costs'. These flaws also include heuristics, rules of thumb which we use to guide our actions, and we are subject to 'framing' which is the tendency to be deceived by the way a choice is presented. We tend to over-estimate the probability of the occurrence of infrequent events. Finally, we are subject to the 'gambler's fallacy' – the belief that random events are not independently determined - and to the 'hot hand fallacy' – the belief that in playing games of chance one can be 'on a roll'. We will explain how such

defects can be mitigated by specific corrective virtues, but our analysis will be restricted to those flaws that appear likely to have significant effects and those where mitigation is practicable.

We also suffer from confirmatory bias, which is the tendency to interpret new information as confirming pre-existing beliefs and to reject information that challenges them. We also suffer from 'priming' or 'projection bias'; a hungry person will tend to anticipate buying a high calorie food a week hence, but the same person will show preference for a 'healthy option' if asked when replete after a meal (Read & van Leeuwen, 1998) We are also subject to 'irrational exuberance' in our stock market investments, which can contribute to extravagant booms and busts. (Shiller, 2000 & 2015)

The flaws described by behavioural economics are often the result of our frequent inability to see the whole picture and are epitomised by the existence of the 'asymmetric value function'. This describes our valuing losses more than profits when they are viewed as separate events. Thus, if I return from holiday and discover that I have received both a bonus of £100 and an unexpected bill of £80, I might reasonably consider myself £20 better off as my net worth has increased by that amount. But often we will value the unexpected bill as more significant that the larger bonus. As Frank and Cartwright point out there is no irrationality in valuing losses more than gains, but this can have irrational consequences. They imagine that employees are offered a new healthcare scheme which has a decrease in annual premium greater than the increased deductible. In this case many employees would be irrationally reluctant to move from the old to the new scheme. (Frank & Cartwright, 2013, p255ff) This suggests that it is both more rational and more virtuous to 'integrate' our choices.

Behavioural economics is not without its critics. It is claimed, for example, that for many purposes it is *legitimate to assume* that people do not suffer from the deficits described. (Thaler, 2015, p159ff) But *insofar as behavioural economics accurately describes human behaviour* the practice of virtues that counter the deficiencies revealed will improve the working of the market. It will also increase economic welfare and promote human flourishing - and give us more of what we want.

The weaknesses described by behavioural economists cover a wide range of defects and deficiencies. But before we analyse particular defects and the virtues that they attract, we need to explain how the findings of behavioural economics are descriptions of human nature.

1 Human Nature and Behavioural Economics

As we saw in chapter 2 both behavioural and classical micro-economics are attempts to describe human nature, and their conclusions can be set out in the canonical form of Aristotelian categoricals. To recapitulate, the conclusions of the behavioural economists at first sight seem to be different from the canonical Aristotelian categoricals that characterise, for example, the lives of bobcats. This is because their conclusions regularly describe defects in decision making, whereas statements about bobcats, such as 'Bobcats mate in the spring and produce between two and three kits', are statements of natural normativity which describe what ought to happen. As we saw in chapter 2 (page 43ff) statements about the characteristic defects of bobcats– 'Bobcats who mate in the summer have only between one and two kits' - have the canonical form that describe defects. Statements that set out the discoveries made by psychologists and behavioural economists are similar as they point to behavioural deficiencies in making economic decisions, which are analogous to the deficiencies of bobcats that mate in the summer and have a reduced number of kits. Such bobcats are stuck with the effects of their defective nature. But, as we shall see, we can choose instead to practise the corrective virtues described below.

2 'Humans', 'Econs' and Normative Economics

Richard Thaler distinguished between the behaviour of 'Econs' and that of 'Humans' – between making economic decisions rationally and making flawed decisions without deliberation. Thus 'Humans' are easily fooled by all the flaws described by behavioural economists whereas 'Econs' avoid these traps if they deliberate sufficiently. (Thaler, 2015, p5ff). These human flaws are shared with other primates which have been shown to fall regularly into such traps. (Chen, *et al.*, 2006) But human beings (unlike other animals) have the power to be 'Econs' (at least some of the time) rather than 'Humans'. The argument of this chapter is that we *should* attempt to take on (where it matters and insofar as we are able) the character of 'Econs'. In other words, we ought to try to better 'integrate' our choices and preferences.

These behavioural weaknesses and their correction can be put in the context of the distinction between *System 1* and *System 2* thinking, as described in Daniel Kahneman's famous book, *Thinking Fast and Slow*. (Kahneman, 2012). System 1 refers to the rapid immediate judgments and choices which we make every day, while System 2 refers to judgments taken after deliberation. Kahneman describes them in the following way:

> *"System 1 operates automatically and quickly, with little or no effort and no sense of voluntary control."*
>
> *"System 2 allocates attention to the effortful mental activities that demand it, including complex computations. The operations of System 2 are often associated with the subjective experience of agency, choice, and concentration."* (Kahneman, 2012, p21/22)

Thus System 1 is susceptible, for example, to the sunk costs illusion while System 2 (when operating properly) corrects the flaw. The latter is the equivalent to Aristotle's analysis of deliberation which he describes as like 'analysing a geometrical construction'. (Aristotle, 1966, *NE*, p56/57, 1112a 31ff) As Sir Davis Ross points out: "Aristotle has in mind the method of discovering the solution of a geometrical problem." (Aristotle, 1966, *NE*, p57 fn1) Aristotle distinguishes between investigation and deliberation. All deliberation involves investigation but not *vice versa*. In this sense mathematical investigations are not deliberative, as they do not involve the solution of a practical puzzle of how to do something. Geometrical problems involve discovering whether the construction of a figure is possible using compass and ruler. It is unsurprising that Aristotle's description of deliberation is very similar to that of Brian Arthur's depiction of the entrepreneur trying to solve a practical business problem. (See page 112 above.) Aristotle accepts, much as Daniel Kahneman does, that there are limits to the time and effort we can spend on deliberation: "If we are to be always deliberating, we shall have to go on to infinity." (Aristotle, 1966, *NE*, p57, 1112b 21)

The deficiencies that can result from the operation of System 1 can be described, following Philippa Foot, as natural defects (Foot, 2001, p37) and it is the role of some of the virtues to correct them. These we may term 'corrective virtues' and in what follows we will describe a

number of deficiencies in human economic behaviour and how particular corrective virtues can reduce them.

The focus of Kahneman's book is on behavioural flaws and while he discusses the use of System 2, (like Grice) he does not analyse when and to what degree we *ought* to use it. His book seeks to describe how people actually behave in their economic activities, but like other economists he eschews describing how people *ought* to behave. In this chapter, we describe what people ought to do if they are to choose virtuously and avoid the behavioural flaws described. Here a distinction needs to be made between two kinds of normativity. We can distinguish between hypothetical and categorical imperatives, to use Kantian terms or between *techne* and *phronesis* to use Aristotelian. The hypothetical imperative will tell us how to achieve a particular aim. The categorical imperative will tell us what we ought to do. This is a step that behavioural economists are reluctant to make. They see themselves as conventional economists, eager to discover what people actually do, but limiting their prescriptions to government policy and 'nudging'. Richard Thaler explains:

> "Normative theories tell you the right way to think about some problem. By 'right' I do not mean in some moral sense; instead, I mean logically consistent, as prescribed by the optimizing model at the heart of economic reasoning, sometimes called rational choice theory." (Thaler, 2015, p25)

It is almost as if behavioural economists believed that economic agents were unable to correct their own weaknesses and needed to be compelled or 'nudged' into correctly integrating their preferences and choices. But in what follows we will argue that indeed the right and logically consistent thing to do is also (often) the morally right thing to do, and that this can be achieved by practising corrective economic virtues.

The behavioural flaws that most affect our important economic decisions and that particularly need correction include biases. We are overconfident in our own abilities – most drivers believe that their driving skills are above average and we ascribe our successes to our own abilities rather than to good fortune. (Taleb, 2007 A) Similarly, incompetent people have a tendency to over-estimate their abilities – the Dunning-Kruger effect (Kruger & Dunning, 1999) This bias leads them both to over-estimate their abilities and to fail to recognise their own incompetence. In the next section we discuss four pervasive flaws in

economic decision making. We do things that result in us getting less of what we want had we given the decision (at least) a few minutes thought.[60]

3 Four Types of Economic Irrationality

In this section we describe four examples of economic irrationality which pervade human economic activity, both in business and in our private actions as savers, investors and consumers. We have selected four that seem to have major importance for the working of the market economy and directly for individual well-being. Other flaws exist but these in the main are not significant in making important economic decisions. For example, we may well be fooled by supermarket managers framing our choices by putting high margin goods in places where they will catch our eye. But it may not be worth our while to take the time and effort to avoid such manoeuvres.

Sunk Costs Richard Thaler gives the example of a person who spends $1,000 on membership of an indoor tennis club that entitles him to play once a week for the season. Unfortunately, after two months he develops tennis elbow which makes playing very painful. He continues to play in the indoor club solely to ensure that he does not 'waste' his subscription. Similarly, an investor wishing to raise money from a portfolio of shares may prefer to sell those that show a profit rather than those on which there is a loss. Plainly this is a mistake – the original cost cannot be part of a rational assessment of which shares are likely to do well and to worth continuing to hold. 'Let bygones be bygones'; 'The water has flowed under the bridge'; and 'There is no good crying over spilt milk' are the everyday maxims that are used to counter this natural flaw in our thinking. These homely proverbs suggest some general knowledge of this weakness, which has been given precision by psychological research.

It has been claimed that ascribing value to sunk costs led to the perpetuation of the Vietnam War when clearly it had been lost by the Americans – indeed the greater the losses the harder it was for them to accept defeat. (Thaler, 2015, pp64-65)

Fooled by Randomness Nicolas Taleb describes how investors and others can be fooled into believing that their successes are the result of their own astuteness rather than luck. (Taleb, 2007 A) Further, we are often fooled into thinking that the good luck of others is the result

[60] But as A. E. Houseman said: "…thought is irksome and three minutes is a long time."

of their skill and astuteness. This latter flaw has been described as 'survivorship bias' and Taleb gives entertaining examples of traders and investors who have deceived themselves and others by taking risks that generate apparently reliable returns at the expense of huge risks of low probability which can (and do) cause gigantic losses. For long periods of time investment strategies may appear highly satisfactory, but in reality they have large unrecognised flaws. (Taleb, 2007 A, p86ff)

Framing and Anchoring Some decisions that we take are influenced by the way the options are presented to us. Presented in a different way, the decision would have been different. For example, Tversky and Kahneman describe an experiment in which it was explained to respondents that an 'unusual Asian disease' was expected to kill 600 people and that there were two alternative plans to control the illness. (Tversky & Kahneman 1981, quoted in Kahneman 2012, p436ff) The percentage choices of the respondents (152) are in brackets,

> If plan A were adopted then 200 people would be saved. (72%)
>
> If Plan B were adopted then there is a one third probability that 400 people will die and a two thirds probability that no one will be saved. (28%)

One can see that the respondents preferred the certainty that 200 people would die over the possibility that all 600 would die. The experiment was then repeated with a different group of respondents (155) with the seemingly different plans.

> If Plan C is adopted, 400 people would die (22%)
>
> If Plan D is adopted, there is a one third probability that no one would die and a two thirds probability that 600 people would die. (78%)

One can see that Plans C and D are effectively the same as plans A and B although in the first experiment 72% preferred Plan A and 22% in the second Plan C. The experiments demonstrate clearly that the way the alternatives were posed can affect the response.

One important practice affected by framing is negotiation. Here framing takes the form of attempts by parties to frame or anchor their negotiating positions advantageously. It is important in negotiations such as buying and selling of houses, businesses, land and business assets generally. Take the example of the sale of domestic property in the United States. A study by Carl Witte and colleagues (Witte, Grunhagen & Gentry, 2008) showed

that transactions were influenced by the way a deal was presented which decided the negotiation: "…it is the way the negotiator interprets the external situation rather than the external aspects of the situation that affect the negotiator's judgement." (Witte, Grunhagen & Gentry, 2008, p478)

Irrational Exuberance One significant and pervasive flaw is that humans are subject to 'irrational exuberance' in their stock market investments. The term was first used in December 1996 by Alan Greenspan, Chairman of the Federal Reserve (1987-2006), to describe what he considered to be the over-pricing of the American stock market. In a book of that title, the economist Robert Shiller argued that there is strong evidence that human beings have a tendency to be carried away by over-optimism and to value assets, shares and domestic property in particular, grossly in excess of their true value. (Shiller, 2000 & 2015) The result is a series of destabilising booms and busts. He concluded the 'high valuation' of the US stock market in 2000 and of the US and other property markets in 2006 and the 'relatively high valuations' of stock markets in 2007 and 2014 '…came about for no good reason at all'. (Shiller, 2015, p225) In other words, investors displayed irrationality in their valuations of shares and homes. Thus, Shiller has little difficulty in showing that in the 20th and 21st centuries both share and house prices have regularly displayed 'irrational exuberance'. Aliber and Kindleberger have demonstrated that from the early 17th century, economies all over the world have suffered from market booms and busts. (Aliber & Kindleberger, 2015) Besides share prices they have included (from numerous possible examples): tulipmania in Holland in the 1630s (p135/136), land (p59/60), art (p140), Japanese real estate (p139) and house prices (p137). Booms, they explain are characterised by:

> "manias… insane land speculation… blind passion… financial orgies… frenzies… feverish speculation … epidemic desire to become rich quick … wishful thinking … intoxicated investors … turning a blind eye … people without ears to hear or eyes to see …investors living in a fool's paradise … easy credibility … overconfidence … overspeculation … overtrading … a raging appetite … a craze … a mad rush to expand." (Aliber & Kindleberger, 2015, p55/56)

Robert Shiller lists a variety of reasons why this happens and makes some suggestions for changes in economic policy, but not, as we shall see, for changes in how investors ought to

behave. He dismisses the claims of efficient markets theorists that the booms and busts are the result of new information coming on to the market. (Shiller, 2015, p196ff) He argues that even if 'smart money' buys when shares are undervalued and sells when overvalued, this will not prevent long periods when shares are mispriced. It would be unclear even to the well-informed when the mispricing would end, and Shiller concludes that there is no "…substantial reason to think that the smart money must necessarily eliminate such [long term] stock mispricing". (Shiller, 2015, p197)

As to the reasons for 'irrational exuberance' Shiller identifies factors drawn from a number of boom and busts ranging from 'new era thinking', loose monetary policy, tax cuts, new technology, to the rise of 'gambling opportunities'. But he does not argue that the precipitating causes described are the only cause as markets "…have lives of their own due to feedback, the amplification mechanism that spreads the actions of the precipitating factors through time and that sometimes makes the effect of these factors so big and so important as to take our breath away." (Shiller, 2015, p69) Shiller lists the amplifying factors as including 'naturally occurring Ponzi schemes'.

4 Behavioural Virtues

Given the evidence of human behavioural flaws, the need for virtues to correct them is clear. Where practicable, our behaviour needs to be more like 'Econs' and less like (deficient) 'Humans'. Efforts to avoid these flaws has three facets which we will discuss in detail below. The first and most obvious is the use System 2 to deliberate and then to correct our propensity to make the errors described. These corrections can then become habituated, but they may also result from education and regulation. But we need to be conscious of the existence of the flaws before we can correct them.

The second facet is the use of our ability to trade with those who suffer less from a particular flaw (or who have trained themselves to avoid it) than we do. This involves specialisation in activities where one's flaws are least. But again, it requires knowledge of the flaws and of the damage that they can do.

The third facet is the use of System 2 to avoid exploiting behavioural defects in others. Thus it is vicious to exploit the behavioural weaknesses of our trading partners and collaborators.

Mitigating Behavioural Flaws in Ourselves

For example, deliberation should lead people not to value sunk costs or to succumb to the behavioural flaws. As we saw in chapter 7 (page 131ff), Epstein claims that theorists of bounded rationality often make the mistake of assuming that the limitations on human decision making are the same for everyone. (Epstein, 2011, pS45ff) People need not suffer passively from these flaws (unlike Capuchin monkeys). They can come to realise that they have them and can take steps, using System 2, to mitigate them. One possibility is that people with different 'intellectual infirmities' may be able to make gains from trade. Once the deficits become known explicitly, those who suffer from them may be able to trade with those who do not. For example, a person who comes to realise that as an investor he has an inveterate weakness for excessive optimism or 'irrational exuberance', then he can (and should) delegate his investment decisions to an investment advisor who has shown that he does not suffer from such weaknesses.

This possibility has a number of interesting corollaries. Such decisions show that it is possible to reduce the time and effort involved in engaging in System 2 thinking by specialisation. Often this will be achieved by a market transaction. Further, it points to particular (primarily but not exclusively) economic virtues of knowing one's weaknesses and how to delegate them to others who do not share them.

Not Exploiting Behavioural Flaws in Others

The good man will not attempt to exploit the natural deficiencies of others. Thus, the application of characteristic behavioural virtues requires us both to seek to avoid deficiencies and to eschew exploiting them in others. The latter case needs some explication. For example, if I push pass a disabled person in a queue I am obviously in the wrong – it is a thing no good man would do, similarly, if I exploit someone's gross information asymmetry. If I go to someone's house and see a fine antique chest of draws which I know to be worth many thousands of pounds and buy it from the owner for £500 without revealing its true value – again, it is a thing no good man would do.

Take an example from the valuation of sunk costs. Imagine a large company bidding for the contract to build a nuclear power station. Suppose too that the prospective buyer (most likely a government) has spent very large sums, say 25% of the total cost of the project, on

site work, preliminary construction and feasibility studies. Then circumstances change making the whole project loss-making. And the contracting company discovers that the government has decided to give it the contract to complete the power station and bring it online because it does not want to 'waste' the money already spent. Then it could be argued that virtuous company directors would refuse the contract – or at the very least only agree to complete the project subject to any profit being related proportionately to the *actual* profits of the power station.

But there is a difficulty. If the good businessman never exploits the weaknesses of his customers and competitors, how can he run a successful business? Won't the practice of these business virtues put him at a severe disadvantage? However, in this instance the businessman is in no worse position than any scrupulous person. The solution is to be found in the Aristotelian doctrine of the mean. Thus, to be *rightly* scrupulous, one must avoid *both* excessive scrupulosity and unscrupulousness. The former can be a major fault. Thus, in selling a house one has the obligation to tell any purchaser of any serious flaws. That the house is subject to subsidence or that the neighbours hold regular noisy parties in the middle of the night are flaws that should be revealed. But the seller is under no obligation to reveal that the kitchen sink sometimes smells or that it is difficult to grow vegetables in the garden or that the trains are often late at the nearby station.

5 The Principle of Mitigation

Can we describe the Behavioural Virtues in the same way that we described the Contractual Virtues in the last chapter following Grice's model? We can easily establish a basic principle which we may call *The Principle of Mitigation*. This requires us to seek to reduce the ill-effects of the deficiencies revealed by behavioural economics as far as we can. These will include both the defects in ourselves and our exploitation of them in others. We can also set out seven Maxims which flow from the *Principle of Mitigation* and they are *The Maxims of (I) Discovery; (II) Significance; (III) Efficient Deliberation; (IV) Economic Prudence; (V) Specialisation; (VI) Non-Exploitation;* and, *(VII) Virtuous Habituation.* Taking these one by one:

(I) *The Maxim of Discovery* The flaws revealed by behavioural economics are numerous and far reaching. They reveal a degree of irrationality that is not widely appreciated by people

other than economists and psychologists. Indeed, the now frequent use of 'Nudge' policies to improve the rationality of peoples' choices about, for two of many examples, taxpaying and the take up of saving for pensions is evidence enough. (Thaler & Sunstein, 2008, p72 & p126) *But the good person, for example, will not wait to be nudged.* He will be aware of his irrational tendency to delay saving and then act to mitigate it. But before he can take corrective action, he must know that he has flaws that need correction. It follows that the good man will make himself aware of the deficiencies from which he suffers in any economic situation where he takes an active part. And given that complete economic rationality is impossible, he will need to discover which defects are most in need of correction. This leads us to *The Maxim of Significance.*

(II) The Maxim of Significance Kahneman's distinction between System 1 and System 2 implies that it is not always possible or desirable to deliberate before reaching a decision. In some cases, the cognitive flaws may have very minor consequences for us. As we saw, in the supermarket case it may matter little whether we fall for the marketing ploy of the managers. On the other hand, such strategies may be important for the morality of supermarket management – some customers may be poor. Similarly, in taking major financial decisions, like selling a house, it would plainly be an error to be influenced by the price we paid for it originally – valuing sunk costs. The role of the *Maxim of Significance* is to ensure that we are on our guard to spot important financial and economic decisions subject to irrationality, which require serious deliberation and the engagement of System 2. This leads us to the *Maxim of Efficient Deliberation*.

(III) The Maxim of Efficient Deliberation This is the virtue of allocating System 2 resources rightly once it has been resolved that the decision is worthy of System 2 engagement under the *Maxim of Significance.* We saw that System 2 or deliberation is, according to Kahneman, an 'effortful mental activity' and that as a result we cannot deliberate over all our economic activities and choices. (Kahneman, 2012, p21). It follows that we must deliberate over which economic choices we need to deliberate about. We do not have time or energy enough to deliberate over all of them. Thus, Sauer explains that System 1 "…has an essentially economic rationale: it is about saving expensive and scarce cognitive resources." (Sauer, 2019, p9) It follows that we need to allocate enough effort to reducing the most damaging

of our System 1 flaws. And this means a large amount of self-knowledge and care in how to allocate one's intellectual resources where they are most needed.

(IV) The Maxim of Economic Prudence Prudence in managing one's own economic affairs is a particular form of the primary 'pagan' virtue. As we saw in our discussion of 'irrational exuberance', many markets for assets which are important for the well-being of individuals, their families and national economies are fraught with often unrecognised dangers. Given the regular inability of governments and central banks to prevent or to mitigate disturbing and distorting booms and busts, ordinary investors (including house buyers and sellers) need to be able to detect booms and busts and to be able to take avoiding action. In the street we need the ability to avoid buses; in life we need to be able to see asset price booms and busts for what they are.

This, of course, is far easier said than done. But the means will include knowing and applying 'Stein's Law'. Stein's Law was enunciated by the economist Herbert Stein in 1976 in analysing economic trends such as the level of US Federal debt as a percentage of nominal GDP and the size of balance of payments deficits. If these are expanding, then the process cannot increase without limit, for Stein explained that: "If something cannot go on forever, it will stop." (Stein, 1976) Stein's Law applies equally to irrational exuberance in stock markets and in property as well as the macro-economic trends that Stein was considering. But knowledge that gross mispricing exists does not make it easy to avoid imprudence. Thus, Charles Prince, the chairman of *Citigroup*, summed up the dilemma in 2007 just before the financial crisis.

> "When the music stops, in terms of liquidity, things will be complicated. But as long as the music is playing, you've got to get up and dance." (https://www.fnlondon.com/articles/chuck-princes-dancing-quote-what-we-have-learned-10-years-on-20170714)

The tension between fear of the inevitable as reflected in Stein's Law and the desire to profit from the boom as long as it lasts is difficult to mitigate. The maxim of the time, 'If you're not in, you can't win.' neatly describes the temptation.

How can the dilemma of irrational exuberance be eased, if not eliminated? The solution is 'economic prudence', which involves the exercise of several different but related practices

and skills. These will include avoidance of a large proportion of debt to assets and hesitancy before acquiring assets in bubble conditions. It requires the ability to detect booms and bubbles and to treat the 'manias' and 'frenzies' and the other signs of irrational exuberance with the suspicion that they deserve. One feature of 'economic prudence' as applied to investment may be the realisation that investment returns have much 'fatter tails' than those suggested by the normal distribution. (Taleb, 2007 B, p229ff) In other words, extreme profits and losses are more likely than often believed. Of course, this is not to deny the existence of 'rational exuberance' where major innovations have the potential to produce huge returns.

(V) The Maxim of Specialisation We saw that Richard Epstein argued that given differences in the degree to which we are susceptible to System 1 flaws, it makes sense for those with a significant weakness to trade with those who are only slightly affected by the flaw or who have adopted the appropriate corrective virtue. (Epstein, 2011) Not everyone could or should become experts in the detection of stock market booms or house price bubbles. The virtue resides in knowing when and how to delegate and involves self-knowledge. I need an accurate view of my own skills and abilities and an awareness of the powers that I need but do not have. These will include powers that I could acquire but only at inordinate cost. This virtue amounts to a recognition of our ability to specialise in what we can do best and to avoid things that we do least well. This virtue reflects the principle of Comparative Advantage. It turns out that the division of labour in general and Ricardo's principle of Comparative Advantage in particular are moral imperatives. (See chapter 7, page 123ff)

(VI) The Maximum of Non-Exploitation As we saw in the example of sunk costs, it is possible for businessmen (and others) to take advantage of the weaknesses of others with whom they do business. Take Daniel Kahneman's example of a firm that deliberately relied on consumers' reluctance to read the 'small print'. As he points out Humans do not read the small print although Econs would. It is, though, not enough to leave the crucial conditions of the contract in plain sight. (Kahneman, 2012, p413) A scrupulous business would not assume that its customers would be Econs and would give prominence to important points in the conditions of the contract. It would put significant 'small print' in big print. Similarly, good businessmen will avoid 'obfuscation' the deliberate complication of 'terms and conditions' to disadvantage customers (Sugden, 2018, p158) and they will avoid adverse

selection amongst sellers. Where information is asymmetric it is possible for sellers to pass off inferior goods, 'lemons', to buyers. (Akerlof, 1970) Again, this is a strategy that good businessmen would eschew.

But as we argued above, the Aristotelian doctrine of the mean is important here. Excess of scruples can be as much a fault as too few. Thus, a person or a business could scarcely operate if information about the product or service sold were provided in excessive detail. Indeed, such excess detail might lead to important facts being overlooked. Some substantial responsibility must remain with the purchaser to discover the flaws in what he seeks to buy. Often this will be the case, as only the buyer knows exactly what he wants the item for and consequently which facts about it are relevant.

A similar difficulty arises in the case of framing or anchoring a negotiation. To what degree is it right to seek to exploit a counterparty by framing the negotiation? Thus, in selling a piece of land I pitch my initial price knowing well that the price is unrealistically high and unattainable. I know that the offer will be rejected but I know that the high price will be the basis for the serious negotiation to come and that I will likely obtain a better price as a result. If the purchaser is canny, he (or she) may refuse to negotiate having detected my strategy. But if the buyer naively accepts my initial price as the basis of the negotiation, then the ultimate agreed price may in part be the result of my exploitation of the buyer's susceptibility to anchoring. Is this a legitimate strategy? Surely the good man would not benefit from the psychological weaknesses of those he does business with.

Here again the Aristotelian mean seems to offer guidance. Evidently it would be wrong to take gross advantage of a naive counterparty by aggressive framing, but without negotiating keenly the good man would put himself at a disadvantage and fail to achieve a bargain which would benefit both parties to the transaction. For example, a virtuous house-buyer might not make the same initial bid to a naïve as he would to a sophisticated seller. He would eschew adopting a strategy that would exploit a foolhardy seller, but when facing a sophisticated and experienced seller a more aggressive stance would be appropriate.[61]

[61] One difficulty in buying and selling houses is that most participants are inexperienced as it may be something they do only four or five times in a lifetime.

(VII) The Maxim of Virtuous Habituation Once a flaw has been revealed and mitigated by System 2 rationality, then it should be unnecessary for us to engage in the 'expensive' procedure of repeating the System 2 process again in similar circumstances.[62] The solution is to form corrective virtues that are practised regularly and become habituated. It may be that the habitual virtuous practice will be to buy the necessary skill from a third party – by following the *Maximum of Specialisation*. It may even be that my cognitive abilities are such that even with the application of as much System 2 effort as I can command, I might never be able to reach the right result.[63] In such cases, subject of course to the strictures of the *Maxim of Significance,* I should seek to acquire the necessary virtue by buying the relevant expertise from a specialist. It would follow that this procedure would become habituated. When faced with this kind of circumstance, I should seek the services of someone who did not have the weaknesses I recognise in myself.

6 Conclusion: Applying *The Principle of Mitigation*

In this chapter we have sought to explain how our pervasive lapses from economic rationality can be reduced by the application of *The Principle of Mitigation* and its associated Maxims. But this leaves unanswered the question of how the Principle is to be put into practice. Traditionally, economists have sought to improve economic performance both as to amount and distribution by recommending changes in government policy. Thus, economists will be sought by governments to advise them on changes in taxes, regulatory regimes, monetary policy and the way in which the government conducts its own business. A recent development has been the introduction of 'Nudge' policies which seek to improve people's economic decision making using the discoveries of behavioural economics. (Thaler & Sunstein, 2008, & Halper, 2015) As we saw, if it appears that people are reluctant to actively save for their retirement, it may be enough to change the 'frame' within which the decision is taken. Instead of employees making a decision to make pension contributions from their salaries, they are compelled to make a decision to opt out from making contributions. By changing the 'choice architecture' it is possible to increase the take up of pensions. (Thaler & Sunstein, 2009, p118/119)

[62] The form of virtuous habituation described is a sub-category of the general habituation which Aristotle argues is important for the instillation of virtue. (Aristotle, 1966, NE, pp28/29 1103a 33ff),

[63] For example, I might be completely confused by an economic equivalent of the Monty Hall problem and be wholly unable to see the correct solution even after it had been explained to me.

Daniel Kahneman points out that institutions, companies and firms, are often in a better position to engage System 2 deliberation than individuals. This is simply because it takes a firm longer to take decisions than an individual. Kahneman comments:

> "Organisations are better than individuals when it comes to avoiding errors, because they naturally think more slowly and have the power to impose orderly procedures. Organisations can institute and enforce the application of useful checklists, as well as more elaborate exercises, such as reference-class forecasting and the premortem." (Kahneman, 2012, p417/418)

To what extent can governments, informed by Nudge policies, mitigate the flaws revealed by behavioural economics? Obviously, the use of Nudge can have significant effects where governments have direct control or influence. But in other areas, it is hard to see how government policy or legislation could have significant effect. No regulation could prevent people from valuing sunk costs, adopting asymmetric value functions, ascribing good luck in business to their own abilities, or being grossly imprudent in their investments.

It is here that we must revert to Aristotle in seeking the means of promoting the practice of the virtues. In the *Nicomachean Ethics*, he explains how the practice of the virtues can be inculcated in three ways, education, habitual practice and the law. We saw in chapter 9 (page 157) that we can add leadership to this list. But most normative economics is focussed on government policy in general and the law and regulation in particular. What is strange is that economists rarely seek to change behaviour by leadership, education or any resulting habituation. Thus, George Stigler describes the role of the economist as a preacher, but the audience of his preaching are governments. (Stigler, 1982) The difficulty is that in an age of 'modern moral philosophy' where the virtues are not widely understood, the means of inculcating the corrective virtues described are limited. A further difficulty is that the flaws in human nature depicted by behavioural economics are not widely known. It is as if it had been discovered that a vegetable plant was susceptible to a previously unrecognised virus which greatly reduced its yield. This virus could be removed by some simple inexpensive measure. The obvious move is to take that step to promote the flourishing and productivity of the vegetable. But this is only possible where both the existence of the virus and its cure are known. Similarly, the discovery of the flaws revealed by behavioural economics suggests

similar curative action in the form of the practice of particular virtues that correct them and limit their damage to human flourishing.

Chapter 11 The Entrepreneurial Virtues

In the previous two chapters we have described the virtues associated with contracts and those that correct our behavioural flaws. In the current chapter we focus on the active virtues associated with economic creativity. These entrepreneurial virtues enjoin us to use skill, persistence and astuteness in our business and personal economic activities. While few have the abilities to create new products and businesses, most people need to practise the entrepreneurial virtues in buying a house, investing in a pension or on the stock market, or in everyday bargain-hunting online or in the shops. The ability to practise entrepreneurship can be seen as one of the 'doings' described by the 'capabilities approach' ethicists that we discussed in chapter 8.

But first we must explain what is meant by the terms 'entrepreneur' and 'entrepreneurship'. Take 'entrepreneur'. The term derives from the French verb *entreprendre,* which means literally 'to undertake' and hence an 'entrepreneur' is a person who undertakes or who gets things done. 'Entrepreneurship' is the characteristic of such a person. In what follows we review the development of the concepts of the entrepreneur and of entrepreneurship from its origin with Richard Cantillon in the 18th century to the present. We will select analyses that reveal different aspects of the practices which constitute entrepreneurship. In turn these will allow us to describe some of the chief virtues and vices of entrepreneurship.

1 Entrepreneurship in Economic Theory

Cantillon, who wrote in the 18th century, was the first economist to analyse entrepreneurship. He was followed by Schumpeter, Knight, Baumol, Kirzner and Casson writing in the 20th century. It may be a surprise that the British classical economists are not included in our analysis. This is because their discussion of entrepreneurship is usually combined with the analysis of the role of 'capitalist' or they do not discuss it at all. For instance, although Adam Smith discusses the operations of 'projectors', his discussion is limited and Israel Kirzner describes how Bentham criticised Smith for not giving their role more importance in the *Wealth of Nations*. (Kirzner, 1979, p40/41 and Smith, 1987 / 1977, p393) Kirzner points out that the later classical economists are similarly at fault.

Cantillon

In its current sense the term 'entrepreneur' originated in the 18th and 19th century and was first used extensively by the Irish-French economist Richard Cantillon in his *Essai sur la Nature de Commerce en General* (Cantillon 1931 / 1755) which was published in 1755. Cantillon's discussion is largely contained in Chapter 13 of Part 1 *'La circulation & le troc des denrees & des marchandises, de meme que leur production, conduisent en Europe par des Entrepreneurs, & au hazard'*[64]. (Cantillon, 1931 / 1755, pp47-57) where he describes the role of the entrepreneur as a risk bearer. He gives the example of a merchant who buys his stock in trade at a fixed price and then re-sells it wholesale or retail on the expectation that the price will not fall. If it does not fall, he profits; if it does, he makes a loss. Cantillon thinks that the activities of entrepreneurs are pervasive and that farmers too are entrepreneurs in selling their produce in towns. For our purposes, it is important to note that the entrepreneur is both a risk bearer and an active (rather than a passive) participant in the market. These are still two basic elements in the economist's understanding of entrepreneurship and the entrepreneur.

Schumpeter

One of the first explanations of the modern understanding of the entrepreneur is to be found in Schumpeter's, *The Theory of Economic Development,* which was first published in 1911. (Schumpeter, 1961 / 1911) Schumpeter describes ordinary economic activity where entrepreneurial profit does not exist and where:

> "…in the circular flow the total receipts of a business – abstracting from monopoly – are just big enough to cover outlays. In it there are only producers who neither make profits nor suffer losses and whose income is sufficiently characterised by the phrase 'wages of management'." (Schumpeter, 1961 / 1911, p129)

Schumpeter then introduces the entrepreneur, who disrupts this stable state, and he gives the example of the introduction of the power loom. The businessman who introduces

[64] 'The circulation and exchange of goods and merchandise as well as their production are carried on in Europe by Undertakers, and at a risk.'

power looms finds that his total receipts are greater than his outlays. This is the profit that accrues to the entrepreneur. Schumpeter makes two further significant points about the entrepreneur. He argues that the entrepreneur is not the risk bearer – that role he apportions to the provider of the capital. Of course, if the entrepreneur provides his own capital then he indeed bears the risk as a capitalist but not as an entrepreneur.

Further, Schumpeter denies that the entrepreneur is an inventor. He is rather the man who contributes the 'will and the action' to the founding of a new business and who "..employ[s] existing means of production differently, more appropriately, more advantageously". (Schumpeter, 1961 / 1911, p132) He is the man who "…get[s] things done". (Schumpeter, 1974 / 1943, p132)

The other factors involved, the entrepreneur either possesses or can buy. He can borrow the capital if he does not contribute his own and he can buy the necessary 'concrete goods'. The result of the new business is a disruption in the ordinary 'circular flow' of the economy. The entrepreneur's role is thus to surmount all the difficulties that face the creators of new businesses and new industries. Schumpeter points out that it is a difficult process because of the need to marshal all the necessary factors including workers, trained personnel and to meet the 'innumerable resistances of a social and political character'. The Schumpeterian entrepreneur has been described as the 'demiurge of economic development and progress'. (Marz, 1991, p32) But even if successful, the entrepreneur can be sure that the profitability of his business will not last. Schumpeter explains:

> "But he has also triumphed for others, blazed the trail and created a model for them which they can copy. They can and will follow him, first individuals and then whole crowds." (Schumpeter 1961 / 1911, p133)

The businessman's profit is not secure as his success will be copied by competitors until it disappears and stability is restored. Equilibrium re-emerges when the new business becomes part of the 'circular flow' and the entrepreneur's profit stream disappears with the growth of competition.

Schumpeter gives a number of examples of entrepreneurship in addition to the introduction of power looms. These include reductions in the cost of existing goods, the replacement of one consumption good by another (like the replacement of wool by cotton in the 19th century), the creation of completely new consumption goods and the search for new markets.

Knight

If Schumpeter claimed that the entrepreneur is not a risk bearer, the economist Frank Knight argued that this is his essential function. Knight's argument in *Risk Uncertainty and Profit* (Knight, 1925) centred on the distinction between risk and uncertainty. Knight made the distinction between risk, which is calculable as in the estimate of the likelihood of an insurance claim, and uncertainty which is not. Thus, we might say that a risk can be given a cardinal number, such as the probability of an event occurring within a specified time. By contrast, an event whose probability is uncertain cannot be given such a figure although it can often be given a ranking and listed in order of uncertainty. And Knight argued that uncertainty rather than risk is involved in the creation of a new business or product.

But Knight accepted that in practice both risk and uncertainty were often combined and could not be readily distinguished. Thus, if the probability of a risk were unknown then it would be treated by the businessman as if it were an uncertainty and assessed and managed in much the same way. (Knight, 1925, p235) In what follows we will use a broad concept of risk to cover both the risks and the uncertainties that businessmen (and others) face in taking business decisions.

In addition to pointing out the importance of both kinds of risk in economic activity, Knight also emphasised the importance of managing risk. (Knight, 1925, 233ff) This was done, he argued, by four methods: 1) consolidation, 2) specialisation, 3) control of the future, and 4) improved knowledge of the risk. Taking these in order, consolidation is the grouping of risks where this is possible, with the result that they would offset each other thus reducing the total risk. Specialisation is the transfer of risk to those best able to bear it. 'Control of the future' and improved knowledge, Knight thinks, are closely connected since "…the chief practical significance of knowledge is control…" (Knight, 1925, p239) Knight also suggests

that what he calls ‘diffusion’, by which he means the diversification of risk amongst other actors as a means of risk reduction. “Other things being equal, it is a gain to have an event cause a loss of a thousand dollars each to a hundred persons rather than a hundred thousand to one person…” (Knight, 1925, p239)

Knight claims that people are different in their ability to manage risk. Some will even specialise in carrying risk as ‘speculators’. Their particular role is to buy risks from the risk averse and to group them together so that they offset each other. Knight comments:

> “It is manifest at once that even aside from any superior judgment or foresight or better information possessed by such a professional speculator, he gains an enormous advantage from the sheer magnitude or breadth of the scope of his operations. Where a single flour miller or cotton spinner would be in the market once, the speculator enters it hundreds or thousands of times, and his errors in judgment must show a corresponding stronger tendency to cancel out and leave him a constant and predictable return on his operations.” (Knight, 1925, p256)

Knight thinks that the skills needed to manage risk can be ultimately reduced, he thinks to two, the ability to assess risk and the ability to act on that assessment. In a free enterprise system, risk bearing is concentrated in the class of ‘entrepreneurs’ or ‘business men’. (Knight, 1925, p244) This leads to the theoretical and practical division of returns into profit which relates to the action of entrepreneurs, and the rent which reflects the return where risk is limited.

Knight’s (re)introduction of risk into the analysis shows how the assessment and management of risk are important attributes of the entrepreneur and of entrepreneurial activity generally. Entrepreneurs specialise in the acceptance and management of risk and they must be ‘confident and venturesome’ in accepting risk but they must also be expert in its management. (Knight, 1925, p269) Entrepreneurs must have both the ability to manage risk and a taste for it that leads them to accept it with enthusiasm.

Baumol

William Baumol's article 'Entrepreneurship in Economic Theory' (Baumol, 1968) distinguishes between the manager and the entrepreneur. According to Baumol, the role of the former can be described as follows:

> "It is his task to see that available processes and techniques are combined in proportions appropriate for current output levels and for the future outputs that are already in prospect. He sees to it that inputs are not wasted, that schedules and contracts are met, he makes routine pricing and advertising outlay decisions, etc., etc." (Baumol, 1968, p64/65)

In contrast, Baumol sees the entrepreneur as having the role of discovering new business ideas and putting them into effect, although he combines this with the role of manager. Baumol describes his role as follows:

> "It is his job to locate new ideas and to put them into effect. He must lead, perhaps even inspire; he cannot allow things to get into a rut and for him today's practice is never good enough for tomorrow." (Baumol, 1968, p65)

Baumol points to the importance of entrepreneurship (which he considers not sufficiently recognised) in economic theory and in generating economic growth. He quotes R. M. Solow to the effect that in the period 1909-1949 US gross output doubled with 87.5% ascribable to technological change and only 12.5% as the result of increased capital. (Solow, 1957) [More recent studies tend to confirm Solow's conclusion that entrepreneurship stimulates economic growth. (Carree & Thurik, 2003)] Baumol comments that technical change will require 'entrepreneurial initiative'. He continues by lamenting the absence of the entrepreneur in formal economic theory and he describes him as 'elusive' and his role in theory as like Hamlet without the Prince. The difficulty with much of the theory of the firm is that it assumes that the management group is a '…passive calculator that reacts mechanically to changes imposed on it by fortuitous external developments over which it does not exert, and does not even attempt to exert, any influence'. (Baumol, 1968, p67)

Kirzner

Israel Kirzner argues that the essential entrepreneurial characteristic is alertness to previously unrecognised opportunities. (Kirzner, 1973 & 1979) He contrasts the entrepreneur with the 'Robbinsian economiser' who seeks merely to economise resources used in pursuit of given economic aims. (Robbins, 2007 / 1932, pp23-44) Kirzner focusses on the defects, as he sees them, in the concept of perfect competition, an idealisation of much economic theory which he finds defective and unhelpful.

Instead of perfect competition, Kirzner follows Hayek (and the Austrian school of economics generally) and uses the concept of the 'market process'. This depends on the presence or absence of information. Under perfect competition, it is assumed that relevant information is complete, accurate and free. Kirzner and his fellow Austrian economists challenge this assumption as false and misleading.[65] Relevant market information has to be discovered and this is the function of the entrepreneur and entrepreneurship. His focus is on entrepreneurship rather on than the entrepreneur as an active businessman. Entrepreneurship is something that is practised by any and every economic actor. As we shall see this is of significance in our discussion of the entrepreneurial virtues as applying not just to the businessman but to anyone who is economically engaged.

To illustrate the concept of the 'market process' Kirzner imagines a market where there are a number of price discrepancies, but where participants are 'unable to learn from their market experience'. (Kirzner, 1973, p14) Thus:

> "Buyers who have paid high prices *do not discover* that they could have obtained the same goods at lower prices; sellers who have sold for low prices *do not discover* that they could have obtained higher prices." (Kirzner, 1973, p14) [Emphasis added]

Kirzner then imagines the introduction of a group of participants "…who are able to perceive opportunities for entrepreneurial profits; that is, they are able to see where a good can be sold at a higher price than that for which it can be bought." (Kirzner 1973, p14) These

[65] An 'Austrian economist' is a follower of the school of Menger, Weiser, Bohm-Bawerk, Mises, Hayek (all natives of Austria) and their successors, many of whom have no connection with Austria. In Austria they are known as members of the 'Vienna School'.

entrepreneurs would "…immediately notice profit opportunities *that exist because of the initial ignorance of the original market participants* and that have persisted because of their inability to learn from experience." (Kirzner 1973, p14) (Emphasis in the original)

Kirzner makes the further point that the 'rigid compartmentalisation' of entrepreneurship from 'Robbinsian calculation is an analytical device which does not exist in reality. Rather the two roles are intertwined. There is "…an entrepreneurial aspect to the activities of each market participant". (Kirzner, 1973, p15)

In summary, instead of the analytical device of perfect competition, Kirzner and other Austrian economists use the concept of 'market process'. This allows them to introduce the entrepreneur into the heart of their analysis of competition. Competition is an entrepreneurial process, and it is the means by which new information is revealed on which economic decisions are made.

Casson

Mark Casson defines entrepreneurs as "…people who specialise in the application of judgement in economic decisions". Good judgement, he continues, "…leads to timely innovation and profitable arbitrage; it eliminates waste caused by the misallocation of resources, and reduces the risks associated with major projects. Entrepreneurs establish firms through which they can exploit their superior judgement, although they may take control of existing firms instead." (Casson *et al*., 2010, p 3). Where the economists that we have reviewed above have attempted to isolate the particular characteristics of entrepreneurs and entrepreneurship, risk-bearing for example (F. H. Knight), Casson seeks to unify the concepts and to create a "…synthesis of the principal insights set out by the canonical authors on the subject". (Casson 2010, p7) This approach is helpful for our argument in one respect as it describes the entrepreneur or wealth creator who we will contrast with the possessor of already acquired wealth. On the other hand, we will seek to maintain the separation of the entrepreneurial qualities for two reasons. First, they will help us identify the different characteristic virtues of the entrepreneur. Second, they will allow us to identify those entrepreneurial virtues that are used by consumers and by anyone who is

economically active in everyday life. Here we will follow Kirzner in his adoption of the insight that all human action has an entrepreneurial aspect. (Kirzner, 1973, p15)

But Casson's analysis is also important as it allows us to describe the 'elusive' character of the entrepreneur[66] – as the counterpart, as we shall see, of Aristotle's Magnificent Man. Besides setting out the characteristics of the Entrepreneur, he also puts him in his cultural and historical context, and he points out that the Entrepreneur usually operates within the context of the firm, not just in the SME (Small or Medium-sized Enterprise) but also as the dominant share-holder or even as the employee of a large corporation.

We will focus on Casson's description of entrepreneurship as the 'application' of 'judgement in economic decisions'. Implicit in the phrase is that the entrepreneurial judgement should be good. As such the phrase is loaded with ethical significance. Like A. N. Prior's sea captain, the entrepreneur *should* specialise in good judgement in business just by virtue of his role as an active businessman.

2 Can Entrepreneurship be a Virtue?

We have described some of the practices of the businessman entrepreneur and of entrepreneurship generally. But why should these practices be virtuous? The explanation is that they contribute to economic development. As we saw this was a major theme in both Schumpeter's and Baumol's analyses of entrepreneurship. In turn, this suggests that these practices contribute substantially to human flourishing which determines which practices are virtuous. This is not to say that human flourishing is no more than economic welfare, although as we saw in chapter 8, the two concepts are related. It must usually be the case that a more prosperous society will provide greater opportunities for flourishing than one that is impoverished. But entrepreneurs are often disruptive; they disturb the normal business equilibrium by their forceful personalities and decisive actions. This leaves them open to particular temptations and vices which may not make them popular figures or to be seen as virtuous.

[66] In what follows we will give an initial upper case 'E' to 'Entrepreneur' indicating his status as an idealised businessman..

Entrepreneurship and Virtue Ethics

Aristotle gives no satisfactory account of how wealth is created. It may, he implies, be acquired or taken by inheritance, saving, warfare, slave raiding or marriage. He is not explicit. In the *Politics* he describes how traders can make money by buying cheap and selling dear, but there is the implication that wealth has been transferred rather than created. He has no understanding of the economic significance of how arbitrage can help adjust prices to better reflect scarcities and to guide action. In his discussion in the *Politics* of how one might earn a living he describes how Thales used a 'device' to make himself rich to confound critics who thought that philosophers must be poor. (Aristotle, 2005, *Politics,* p55ff, 1259a) According to Aristotle, Thales used his knowledge of astronomy to predict that there would be a good crop of olives and then raised capital and bought options on the hire of oil presses in Miletus and Chios. When a large crop materialised, Thales made a substantial profit and answered his critics. Aristotle comments that such a manoeuvre was open to anyone, not just philosophers; anyone could do the same and that the way to succeed in business was to obtain a monopoly. (Aristotle, 2005, *Politics,* p57, 1259a) While this discussion shows a knowledge of some of the forms of entrepreneurship and wealth creation, it lacks much of the substance. Thus, in Aristotle's view the effect of the transaction is to transfer profits from the owners of the olive presses to Thales. It is significant that he does not take an example of someone raising capital to introduce a new kind of more efficient, perhaps a steam-powered, olive press. Aristotle also gives the example of a Sicilian who bought all the iron from an iron foundry and was able to turn 50 talents into a 100 by charging buyers a higher price than they would have paid otherwise. The ruler, Dionysius, expelled him on the grounds that such activities were detrimental to the state but allowed him to keep his profit. Aristotle does not have an understanding of the creation of wealth. Wealth, he assumed, is only acquired by its transfer from some people to others.

Aristotle was not alone in his ignorance of entrepreneurship. Although wealth was evidently created in the ancient world there was only minimal understanding of how this was done and entrepreneurship was unknown as a concept. As M. I. Finley points out that like Moliere's character who did not know that he was speaking prose, *economic* relationships existed in the ancient world although there was no knowledge of their *economic*

significance. Similarly entrepreneurs and entrepreneurship existed in the ancient world, but the concepts of the entrepreneur or entrepreneurship did not. (Finley 1973).

In virtue ethics the entrepreneur seems even more elusive than Baumol claimed he was in economics. For example, in a collection of essays, *Economics and the Virtues*, neither the entrepreneur nor entrepreneurship are discussed. (Baker & White, 2016)

3 'Liberality' and the 'Magnificent Man'

Before exploring the characteristic virtues of entrepreneurship it is as well to consider Aristotle's description of the virtues relating to money and wealth, so that we can contrast them with those of the entrepreneur or wealth creator. His analysis of wealth is concerned not with its creation but with what the good man does with it once he has got it. As we saw, for Aristotle wealth appears to be inherited, acquired through war, obtained by judicious marriage, or by saving. Wealth is something got rather than created. Money and wealth are instrumental goods. They only have value because of what they can be used for and no one (except a miser) enjoys money for its own sake. In the second part of Book 4 of the *Nicomachean Ethics*, Aristotle discusses the virtues relating to wealth and begins with an analysis of the virtue of liberality. Liberality is the virtue of the mean between meanness and prodigality. The liberal man will neither be a skinflint nor be extravagant. His liberality will be measured against his resources. What would be prodigal for a poor man might be niggardly for a rich one. A prodigal man is one who wastes his resources. The liberal man will spend and give money in the right way and acquire it similarly. Note again that Aristotle writes of taking from the 'right sources' and not of creating wealth. He describes the liberal man:

> "…the liberal man will give and spend the right amounts and on the right objects, alike in small things and in great, and that with pleasure; he will also take the right amounts from the right sources." (Aristotle, 1966, *NE*, p82, 1120b 22)

In contrast, the prodigal man spends money that he cannot afford and is forced to acquire it in the wrong way and he is reckless and self-indulgent. Yet excessive giving is not the mark of a bad man but only of a foolish one. On the other hand, meanness is a deficiency in giving and an excess in taking. While it may be possible to correct the vice of prodigality, Aristotle

thinks that meanness is incurable because of age or disability and is more deeply rooted in human nature. One motive for meanness is excessive caution in seeking to avoid doing something disgraceful. However, it is often the result of a 'sordid love of gain'. Meanness is a greater vice than prodigality.

Aristotle next considers 'magnificence'. This is like liberality but on a large scale. The Magnificent Man (*megalo-prepous*) is liberal but the liberal man is not necessarily magnificent. A poor man cannot be a Magnificent Man as he cannot be liberal on the requisite scale. The deficiency of magnificence is niggardliness and the excess is vulgarity and bad taste. The gifts of the Magnificent Man will be 'large and fitting' and he will spend such sums for 'honour's sake'. (Aristotle 1966, *NE*, p86, 1121a 23) He will spend 'gladly and lavishly' without 'nice calculation' which would be niggardly. The gifts of the Magnificent Man will be for honourable ends, such as those related to the gods, votive offerings, and buildings. He is like an artist and he deploys his wealth on things that can be appreciated by the public and useful to it, such as the entertainment of foreign guests. His house should be such that it is a public ornament. The vices of the Magnificent Man are related to vulgarity on one hand, spending extravagantly on a mere 'club dinner' for example. On other hand the niggardly man will:

> "…fall short in everything, and after spending the greatest sums will spoil the beauty of the result for a trifle, and whatever he is doing he will hesitate and consider how he may spend least, and lament even that…" (Aristotle, 1966, *NE*, p89, 1123a 23)

In summary, Aristotle considers that there are two kinds of virtue relating to wealth, those relating to a man of modest or moderate means and those relating to the rich man or the Magnificent Man. They are similar except that the rich man properly spends his money honourably with taste and on objects that in one way or another benefit the public. Both the man of modest means and the rich man have respective vices which are characterised as extravagance and meanness. But the rich man can also have the vice of vulgarity.

Aristotle's description of the virtues and vices relating to money and wealth are easily applied to the modern world with little alteration. Today we might substitute the support and promotion of charities for the support of 'honourable ends', such as votive offerings

and the gift of public buildings. *And to bring the concept up to date we will from now refer to him as a Philanthropist* with an initial capital.

Aristotle's account of the vices of the rich also rings true, with examples of vulgarity all too frequent, although examples today of the meanness of the rich appear infrequent or more likely well-hidden or disguised.

Entrepreneurial Virtues

In our analysis of the ethical characteristics of the entrepreneur we will follow the pattern of Aristotle's analysis of the virtues in relation to money that we have just reviewed. In what follows we set out a supplement to Aristotle's description of the virtuous use of wealth by the 'wealth disposing man' with a description of the virtues and vices relating to the 'wealth creating man' or 'entrepreneur'. We will also follow Aristotle's pattern by following an analysis of the virtues and vices as such with a description of the 'entrepreneur', the 'wealth-creating' equivalent of the 'Magnificent Man' or the 'Philanthropist'. This is particularly important as entrepreneurship can (and should) be practised by almost every active person, just as Aristotle thought that liberality was open to everyone, not just to the Magnificent Man. Entrepreneurship, on both large and small scales, is a form of practical wisdom with varying degrees of expertise. These every day entrepreneurial virtues will be exercised usually by people in their role as consumers and they will also be seen in such economic activities as the astute search of the internet for bargains, house buying and selling, finding a mortgage, saving, selecting and contributing to a pension, investing and seeking educational opportunities. Table 2 sets out how Aristotle's outline of the *liberality* and the *Magnificent Man* compare with our concepts of *entrepreneurship* and the *Entrepreneur*. Note that we differentiate the virtue by using an initial lower case and the person by the use of an initial upper-case letter. In what follows the term Entrepreneur will have an initial capital to indicate that he is the counterpart of the Philanthropist.

Table 2	**Wealth Ownership and Wealth Creation: Virtue and Virtuous Persons**		
	Aristotle: Wealth Ownership	*Economists: Wealth Creation*	*Notes:* Initial lower case indicates a virtue and initial capitalisation denotes a person
Virtue	liberality	entrepreneurship	
Virtuous Person	Magnificent Man / Philanthropist	Entrepreneur	

One immediate difficulty with this approach is that most economic analysis of entrepreneurship is based on what Entrepreneurs do and how their activities can be best analysed in the light of economic theory. It is only rarely that economists explore the ethics of entrepreneurship. One such exception are Mark and Catherine Casson in *The Entrepreneur in History,* where they assert explicitly that the Entrepreneur is a 'role model' and that 'the self-employed entrepreneur is an aspirational figure'. (Casson & Casson, 2013, p2) Another is Mark Casson's depiction of his fictional Entrepreneur, Jack Brash, which is full of telling accounts of his moral strengths and weaknesses. (Casson, 2003, pp1-5)

We next attempt to flesh out our description of entrepreneurship and the Entrepreneur with distinctive virtues. Both reflect habitual practices and it follows that we must establish what these practices are before we can describe their characteristic virtues (and vices). This is the distinction between doing something and doing it well (or ill). The habitual practices were described in our analysis of entrepreneurship above. These are set out in Table 3 (below) together with their characteristic vices. We have also added a characteristic virtue of the Entrepreneur which is usually omitted in accounts of entrepreneurship by economists. This is the requirement that the Entrepreneur must be honest if he is to be a good Entrepreneur. If we omit honesty we are left in the strange position of having to describe a businessman who applied all the other entrepreneurial virtues with extraordinary ruthlessness, dishonesty and lack of scruple as being a good Entrepreneur. This would be a travesty and it would be a caricature of the good businessman that we wish to portray.

Column 1 lists the entrepreneurial practices, while column 2 describes the virtue associated with each practice. Column 3 shows the equivalent vices of excess and deficiency. Column 4 shows which of the virtues are 'master virtues' (explained below) and column 5 shows whether the virtue is that of any economically active person or whether it is properly attributable only to the businessman Entrepreneur. The virtues apply both to large and small scale entrepreneurship, from the heroic Schumpeterian Entrepreneur who creates a new industry to the entrepreneurial virtues which apply to anyone who is economically active.

Table 3 Entrepreneurial Practice: Virtues and Vices

	1	*2*	*3*		*4*	*5*	*6*
	Entrepreneurial Practice	***Characteristic Virtues***	***Characteristic Vices***		***Master Virtue?***	***Any Economically Active Person?***	***Economists***
1)	Effective Action 'Will and action' Putting projects into effect	Determination and persistence	Excess	'Throwing good money after bad'	Yes	Yes	Schumpeter, Baumol
			Deficiency	Lack of persistence			
2)	Risk-bearing	Astuteness, caution	Excess	Reckless	No	Yes	Cantillon, Knight
			Deficiency	Over-cautious			
3)	Locating new business ideas	Opportunism	Excess	Exaggerated enthusiasm for new businesses	No	Yes	Baumol
			Deficiency	Negligible interest in new opportunities			
4)	Business management	Competent management	Excess	Excessive focus on current non-entrepreneurial business	No	Yes	Baumol
			Deficiency	Incompetence			
5)	Business Information Discovery	Alertness	Excess	Excessively alertness to opportunities which may be non-existent	No	Yes	Kirzner, Hayek
			Deficiency	Un-observant			
6)	Leadership	Charismatic Leadership	Excess	Excess of charisma – cult-like leadership	Yes	No	Casson Schumpeter
			Deficiency	Machiavellian			
7)	Role model	Appropriate self-advertisement	Excess	Excessive cultivation of his *persona*	Yes	No	Casson & Casson
			Deficiency	Self- denigration of achievements			
8)	Honesty	Honesty and justice (in economic transactions)	Excess	Over-scrupulous	Yes	Yes	None
			Deficiency	Lacking in scruple, given to fraud			

But first let us examine entrepreneurial practices and their related virtues and vices one by one. We will then disentangle them as they apply to the businessman proper from those of the man in the street as a market participant (column 5). Thus, the businessman Entrepreneur can be a role model, but the consumer cannot have this function. Nor does the consumer require leadership or the ability to inspire others. On the other hand, he does require alertness to new products, services or job opportunities. Indeed, he also needs honesty, determination in seeking his ends, and astuteness in assessing risks. But these qualities, as Kirzner emphasised, are in most part needed in any 'human action'[67].

1) Effective Action

For a business plan to be put into effect the businessman must have both the necessary ability and energy. Persistence and a single-minded determination to overcome obstacles are characteristic of such men. Numerous examples are given by Samuel Smiles in *Self-Help* (Smiles 1969 / 1859) and in *The Lives of the Engineers* (1874-1879) of men, often of humble origin, who despite extraordinary difficulties and disappointments brought a new technology to success. Smiles emphasises their energy and self-discipline. Other examples are to be found in business history and in the biographies of businessmen. The difficulties in the way of the entrepreneurial businessman may be considerable and may include such hazards as grasping governments, economic instability, high taxes, defective property rights and excessive regulation. (Fogel *et al.*, 2006, p541ff.) In his *Principles of Economics*, Marshall describes a notional businessman whose business expands so long as his 'energy and enterprise retain their full strength and freshness'. (Corley, 2006, p140) And as we saw above, according to Knight, the Entrepreneur is 'confident and venturesome'.

What are the excesses and deficiencies of the man of effective action? The excess is perhaps where a businessman insists upon 'throwing good money after bad' in an attempt to put into effect a defective business plan. The deficiency is surely a lack of energy and persistence.

[67] The allusion here is to Mises's book *Human Action* which develops the principles of economics starting from an analysis of human choice and action. (Mises, 1949)

2) Risk Bearing

The ability to assess accurately the risks associated with a new (or indeed an established) business is an essential ability of the Entrepreneur. A businessman who misjudges the riskiness of a business venture will soon find himself in trouble. Of course, his judgement may also be defective if he believes that a business venture is more risky than it really is. But this has the alarming consequence that the resulting success will reinforce the businessman's over-estimate of his abilities which may lead him to a catastrophic misjudgement in the future. This means that the good Entrepreneur will avoid the behavioural irrationalities relating to risk assessment which were described in the previous chapter. (Wadeson, 2006) The Entrepreneur is less risk averse than the ordinary businessman, but this is not necessarily a fault unless it is excessive or imprudently managed. He will reduce his risk exposure by offsetting some risks against others, by selling risks for which he has no appetite and by generally controlling the risk he retains. The characteristic virtue will be prudence in risk assessment and management. The vice of excess is extreme prudence, which would vitiate the role of the businessman as an Entrepreneur. The vice of deficiency is recklessness and lack of understanding of the risks to which he is exposed.

3) Location of New Business Ideas

An Entrepreneur who cannot locate new business ideas, may yet be an Entrepreneur as he can sub-contract the discovery of ideas for new businesses to people who specialise in inventions and innovations. If he works for a large company, he can also delegate to people with those skills who are already employed. Still the inventors of new products often combine this ability with that of devising a business plan and putting it into successful effect. But innovation, by itself, is not enough to make an Entrepreneur. It is easy enough to conceive a new business idea, but it can be difficult to put it into operation. One obvious difficulty is that a business idea may be before its time. Take the example of *boo.com*, the internet clothes shop, which spectacularly collapsed in 1999 (Malmstern *et al.*, 2001). The difficulty was that the technology was insufficiently developed and the potential users of the site were ill-prepared and inexperienced. Since

that time internet clothes shopping has become enormously successful and a staple of internet commerce.

It follows that the characteristic virtue of the location of new business ideas is that they must be practical ideas that can be framed into sensible business plans with a good chance of realisation. The vice of excess will be the production of ideas that have little hope of commercial success and waste large amounts of resources in their attempted implementation. The deficiency will be an aversion to new business ideas and a rigid conservatism.

4) Business Management

Baumol points out that the Entrepreneur needs ordinary management skills if he is to implement a successful entrepreneurial business plan. He needs to have an accurate knowledge of the ordinary course of business before he can plan successfully to disrupt it. This will involve knowledge of other participants in the market and a reasonable expectation of their future plans and current activities. It will also involve deal making skills and the ability to select and engage suitable partners and employees. Further, the entrepreneurial businessman needs to have all the skills of the 'Robbinsian economiser', who can effectively manage an existing business by efficiently matching limited resources against given ends. The defect of excess will be focussing on existing business to the exclusion of new ventures. The deficiency must be business incompetence and lack of management skills.

5) Business Information Discovery

This entrepreneurial virtue reflects the general alertness to business opportunities described by the economists of the 'Austrian' school, such as Kirzner. Typically, these will be discrepancies in pricing which will allow the astute businessman to buy a good cheap in one market and to sell it dearly in another. But this alertness is not limited to price discrepancies and elides with the skill of seeking new business opportunities described above. It differs in that it applies in all human action generally and is not limited to the actions of businessmen large or small. Competition is the discovery procedure by which information is obtained and opportunities revealed. (Hayek, 1978)

The virtue associated with spotting and exploiting arbitrage opportunities for Entrepreneurs and the economically active is to make sure that they are not illusory and to exploit them if they are real. The equivalent vices are to ignore them or to attempt to exploit non-existent opportunities with the resulting waste of effort and resources.

6) Leadership

Putting a business plan into effect will often require leadership and the Entrepreneur may even need to inspire his employees so that things do not "…get into a rut and for him today's practice is never good enough for tomorrow". (Baumol, 1968, p65) But leadership must be of the right kind. The leader may be either a 'charismatic leader', in which case he aims at the success of the enterprise as a whole, or he can be an egocentric 'Machiavellian leader' who attempts to manipulate his associates and employees. (Tudorvic & Schlosser, 2007, p293) Charismatic leaders will encourage loyalty among their followers and show appreciation of their efforts. (Casson *et al*., 2010, p210ff) The leader will also require rhetorical skills to persuade and enthuse his followers with a vision of what he hopes that they can achieve together. It might be thought that leadership was the same quality as what we have called 'Effective Action' (Item 1 in Table 2 above), but this is not the case. It is easy to imagine a persuasive charismatic businessman who was excellent at promoting his plans but incapable of putting them into operation.

7) Role Model

Mark and Catherine Casson have pointed out that the Entrepreneur is often seen as a role model and an aspirational figure. While their remarks were aimed at the small self-employed businessman, more successful entrepreneurs owning or managing huge businesses are still treated with respect and admiration by public opinion, newspapers and governments. This has not always been the case – consider Bernard Williams hard words about 'business tycoons' in the mid-1980s. (Williams, 2006, p52) But many Entrepreneurs engage in business not for the financial rewards alone but for the satisfaction of building a successful business. This should not surprise us. As if we are right in thinking that entrepreneurship is a virtue, then like any other virtue its habitual

successful practice will become a delight. What are the defects of Entrepreneur as a role model? He can perhaps devote more time and energy to cultivating his public *persona* than he should. The deficiency may be in disparaging his business and denigrating his own legitimate successes.[68]

8) Honesty

Without honesty the Entrepreneur is in danger of becoming a criminal. He may have the appearance of a businessman, but he will be a fake. Honesty is a primary entrepreneurial virtue as without it the businessman ceases to be a wealth creator and merely transfers wealth illegitimately from others to himself or to his company. And as we argue below, he may give way to the characteristic businessman's vice of fraud. Does honesty have a flaw of excess? It is possible to imagine a businessman who is so over-scrupulous that he is regularly over-taken by his competitors and achieves little.

4 An Entrepreneurial Master Virtue?

It is worth determining which, if any, of the entrepreneurial qualities that we have described is a master virtue without which the others are ineffective. On way of answering this question is to ask which of the entrepreneurial virtues can be 'bought in' by the entrepreneurial businessman or delegated to an existing employee or colleague. Take, for example, the virtue of rightly assessing and managing risk (Item 2 in Table 3 above). It is quite possible for a business to acquire such expertise by hiring someone with a proven ability to evaluate and manage risk. Similarly, it is possible to buy expertise in seeking out new business ideas. Innovation by itself is useless without the ability to convert the new idea into a business plan and to put it into effect. (Item 3 in Table 3 above). Similarly, it is possible for an Entrepreneur to acquire business ideas by delegating to suitable employees or employing people with such expertise. (Item 4 in Table 3 above). Again, it is possible for the businessman to engage employees who have the ability to spot possible arbitrages, or small scale 'Kirznerian' opportunities (Item 5 in Table 3 above).

[68] Here the lamentable example of the jeweller Gerald Ratner comes to mind. He destroyed his business by publicly denigrating his products and by describing them as 'total c**p' in a speech to the *Institute of Directors* in April 1991.

In contrast, it appears that the other entrepreneurial virtues, leadership, being a role model and honesty are qualities that cannot be bought but must be acquired otherwise. A businessman cannot employ someone for their leadership qualities to make up for his own lack of them. And honesty cannot be bought – it must be practised. (Items 6, 7 & 8 in Table 3 above)

Similar considerations apply to the ability to put a business plan into successful operation through effective action (Item 1 in Table 3 above). This is a quality that a businessman cannot buy without ceasing to be an Entrepreneur. A businessman who buys such abilities becomes a sleeping partner, an investor or a shareholder and gives up his role as an Entrepreneur, although he may still practice small-scale entrepreneurship in his ordinary life, or perhaps in another business.

Defining Everyday Entrepreneurship

Entrepreneurship can be defined as virtuous practices of people who are economically active. Such virtues are associated with putting new business plans into operation and to spotting and grasping opportunities. These will include opportunities involving shopping, house buying and selling, mortgages, jobs, pensions, investments, education and business creation. It will involve the careful assessment of any significant risks associated with these activities. The practice of entrepreneurship is similar to that of the Aristotelian virtue of liberality which is open to everyman. The practice is subject to defects of excess and deficiency and if pursued actively may develop into the large-scale operations of the businessman Entrepreneur.

5 Defining the Entrepreneur – the Counterpart of the Philanthropist

How does the Entrepreneur compare with the Philanthropist or the man of established wealth? Of course, in a number of cases these two figures are combined. One can give a number of examples of internet billionaires who started out as small-scale entrepreneurs and whose success then burgeoned so that almost single-handedly they have created new industries or transformed old ones. Their vast success allows them to combine the roles of wealth creator with that of just wealth distributor – Entrepreneur and Philanthropist in one person.

Their combined roles will allow them to indulge in pet fantasies, colonies on Mars perhaps. But others may devote themselves to charities and the foundations that they may have established, and to projects such as the elimination of dangerous diseases in poor countries. Some may even distance themselves from their businesses they created and devote themselves to these activities in which case they ceased to be Entrepreneurs and have become Philanthropists.

But this is to describe the Entrepreneur who has reached the pinnacle of business success. How does the burgeoning Entrepreneur compare with the Philanthropist? The role of the entrepreneur in this sense is only open to those people with the necessary personal qualities. Some may be acquired by habitual practice but others cannot be acquired in that way. A man may acquire skill at spotting business opportunities and improve his ability to assess risk by experience and habitual practice, but charismatic leadership and the ability to put projects into effect may be always beyond the reach of many people. This is not to say that people with those abilities cannot perfect them by practice. One can detect a parallel between Aristotle's implicit view of how the Philanthropist acquires his wealth fortuitously and the Entrepreneur who has acquired fortuitously the abilities that give him his success. Again in both cases habitual practice will establish and perfect their respective virtues.

6 Conclusion

In this chapter, we have attempted to show that entrepreneurship is indeed a virtue. The Entrepreneur is an ideal figure similar to, and yet in contrast with, the Aristotelian Philanthropist. The former creates wealth for himself and others and the latter uses rightly what he has already acquired. Similarly, we can compare the Aristotelian virtue of liberality, which is open to almost everyone, to that of entrepreneurship, which can and should be practised by anyone who is economically active. Like other virtues. they can be engrained and perfected by habitual practice and they are based in human nature and contribute to human flourishing.

Chapter 12 Retrospect and Conclusion

This thesis has argued that a number of virtues characteristic of individual and corporate activity in a market economy flow from human nature by way of three unique human capacities. These are: the ability to make contracts; the power to own property; and the ability to collaborate through the division of labour. The exercise of these powers is the cause of much human good as they allow people uniquely to form plans which they can execute using property and to collaborate by contract to form complex hierarchies of productive specialisation. The result is economic welfare which constitutes a major part of human flourishing. It is of course not the only part but many other facets of eudaimonia depend on the power which economic welfare gives. Wealth (or economic welfare) gives to countries and individuals the power to do much good.

We saw too that our economic actions require virtues of three characteristic flavours – contractual, behavioural and entrepreneurial. The first specifies how we ought to keep the agreements that we make. The second describes how we should avoid the behavioural flaws in our decision-making insofar as they significantly affect our economic activities. The third sets out our obligation to be creative in business, insofar as we can.

In the Introduction we asked whether the argument of this thesis could be construed as a defence of the free market economy? Indeed it can, as free markets allow for the practice of the economic virtues we have described. The practice of these virtues promotes eudaimonia, and the practice of any virtue comes to be a delight in itself. In a command economy eudaimonia is limited and so is the satisfaction that flows from virtuous economic practice.

Economists usually eschew moralizing and limit themselves to policy recommendations for governments, central banks and politicians. In contrast, we have described virtues which individuals and businesses *ought to practise*. An exception is that our analysis might support some judicious 'nudging' of 'choice architecture' to encourage, for example, saving and tax paying. But otherwise, we do not advocate changes in the economic policy of governments. New policies may be desirable, but they are not the subject of this thesis.

What then is the status of our conclusions? Do they amount to a moral tract? The answer must be: Yes. But this should not be a surprise as in other domains moral persuasion is an important conclusion of similar arguments. For example, Miranda Fricker argues that testimonial virtue requires us to treat the evidence given by women with appropriate respect. (Fricker, 2007) And movements to change human behaviour because of newly discovered ill-effects are often effective – witness the successful campaigns against drunk driving and smoking. Similarly, the existence of the economic virtues that we have described requires us to modify our economic behaviour. They enjoin us to do what we can reasonably to be trustworthy and trusting, to reduce transaction costs, to avoid behavioural pitfalls, not to exploit them in others and to be astute and creative in business.

Appendix 1: Martha Nussbaum's Ten Central Capabilities

1. *Life*. Being able to live to the end of a human life of normal length; not dying prematurely, or before one's life is so reduced as to be not worth living.
2. *Bodily Health*. Being able to have good health, including reproductive health; to be adequately nourished; to have adequate shelter.
3. *Bodily Integrity*. Being able to move freely from place to place; to be secure against violent assault, including sexual assault and domestic violence; having opportunities for sexual satisfaction and for choice in matters of reproduction.
4. *Senses, Imagination, and Thought*. Being able to use the senses, to imagine, think, and reason—and to do these things in a 'truly human' way, a way informed and cultivated by an adequate education, including, but by no means limited to, literacy and basic mathematical and scientific training. Being able to use imagination and thought in connection with experiencing and producing works and events of one's own choice, religious, literary, musical, and so forth. Being able to use one's mind in ways protected by guarantees of freedom of expression with respect to both political and artistic speech, and freedom of religious exercise. Being able to have pleasurable experiences and to avoid non-beneficial pain.
5. *Emotions.* Being able to have attachments to things and people outside ourselves; to love those who love and care for us, to grieve at their absence; in general, to love, to grieve, to experience longing, gratitude, and justified anger. Not having one's emotional development blighted by fear and anxiety. (Supporting this capability means supporting forms of human association that can be shown to be crucial in their development.)
6. *Practical Reason.* Being able to form a conception of the good and to engage in critical reflection about the planning of one's life. (This entails protection for the liberty of conscience and religious observance.)
7. *Affiliation.*
    a) Being able to live with and toward others, to recognize and show concern for other humans, to engage in various forms of social interaction; to be able to imagine the situation of another. (Protecting this capability means protecting institutions that constitute and nourish such forms of affiliation, and also protecting the freedom of assembly and political speech.)
    b) Having the social bases of self-respect and non-humiliation; being able to be treated as a dignified being whose worth is equal to that of others. This entails provisions of non-discrimination on the basis of race, sex, sexual orientation, ethnicity, caste, religion, national origin and species.
8. *Other Species.* Being able to live with concern for and in relation to animals, plants, and the world of nature.
9. *Play.* Being able to laugh, to play, to enjoy recreational activities.
10. *Control over one's Environment.*
    a) *Political.* Being able to participate effectively in political choices that govern one's life; having the right of political participation, protections of free speech and association.
    b) *Material.* Being able to hold property (both land and movable goods), and having property rights on an equal basis with others; having the right to seek employment on an equal basis with others; having the freedom from unwarranted search and seizure. In work, being able to work as a human, exercising practical reason and entering into meaningful relationships of mutual recognition with other workers.

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