

On Production: An Ontology

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Abstract

In the economic realm, production is the primordial phenomenon - that which is revealed as the foundation. Indeed, so profound is the role of production in economics, that if economics as a field is to have real meaning, it must ask the foundational questions of what production is, and why production happens.

This paper argues that *production is the teleological morphogenesis of the human material realm*. It further argues that economics needs a richer understanding of the human motivation to produce: Adam Smith said we need money for 'other occasions', Alfred Marshall knew we have a 'higher nature', Carl Menger spoke of 'our inner drives', and Keynes sensed what he called our 'constructive impulses', but all these expressions merely touch on the deeper nature of mankind without specifying *what* that nature is.

This paper finds that both the ancient understanding of taking-care-of and attending-to, summarised as *caritas* or *agape*, and contemporary psychology's identification of the search for security, are the wellsprings for human material action. Thus, production is an instinct. Governmental policies which interfere with the natural impulse to take-care-of through production, or which interfere with the processes of production, will reduce production, and in strong-form cases, cause shortages.

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On Production: An Ontology

1. Introduction

Economics, incredibly, has mostly dismissed the question of production, largely assuming that it occurs on its own, and that, to use the phrase of art, an economy will always revert to full employment in the long run.

Yet in the economic realm, production is the primordial phenomenon - that which is revealed as the foundation. Indeed, so profound is the role of production in economics, that if economics as a field is to have meaning, it must ask the foundational questions of what production is, and why production happens.

Today, given the eviscerating de-industrialisation of the productive sector in the West in the last generation, finding good answers to those two questions assumes direct importance.

This paper offers a definition of production, an understanding of why production happens, and then a macro discussion of the elements of production.

2. Production

Firstly, what is production? It is the will-driven becoming of human material intention or end (*telos*). Meaning: the human decision to combine materials to make a new thing. The newness of the thing is its emergent properties which arise from the relational positioning of the constituent elements.

Relational positioning means how the elements are combined; for example, to make a pen, or a jet aircraft, or a painting, the elements are combined in a specific way to achieve the emergent property, in contrast to a random grouping or lumping together of the elements which would not achieve the emergent properties of the produced good. That is, a pen can write because the ink in the barrel is released through the holder into the tip; an aircraft can fly because of the arrangement of metals into a fuselage, the electronics arranged in the cockpit, the arrangement of

the engine elements to provide thrust, and the attachment of the wings to provide lift; and a painting has its appearance because of the arrangement of the paint on the canvas.

So, production is the teleological morphogenesis of the human material realm.

Given that the emergent property is new, we can say that the elements of the produced good have assumed a new form, or being, and as such we can further conclude that production is a phenomenon of ontological transformation of the inputs onto a new thing.

Note that Carl Menger lightly touched on this by writing that production is to 'investigate the ways in which things may be combined in a causal process for the production of consumption goods' (Menger 2007). And interestingly, John Locke discussed the relations of things as cause and effect (Locke 1991), but his disciple Adam Smith failed to take up the thread in the context of production (Smith 1991).

3. Why Does Production Happen?

The answer which economics has traditionally offered is that production occurs when the cost to the producer is lower than the value of the good to a potential consumer, a framework famously formalised and elaborated by Alfred Marshall in his *Principles of Economics* (Marshall 1997), itself arguably a crystallisation of the general profit-motive concept from Adam Smith, summarised in his argument that 'when we have money, we can more readily obtain *whatever else we have occasion for*. The great affair, we always find, is to get money'. And then Keynes - Marshall's successor at Cambridge - developed the model into an explicitly macroeconomic theory.

That is, the supply and demand concepts resulting from these frameworks are the manifestations of underlying forces, and as such, ultimately just beg the question, if production happens when people expend effort and sacrifice time to produce, *why* do people expend such effort and time to produce?

Of the major economists, Carl Menger came closest to answering, when he observed that '(n)needs arise from *our drives*, and the drives are imbedded in *our nature*' (Menger 2007 emphasis added), but there is no investigation of what those *drives* ultimately are, and surprisingly, there is no other investigation of which theory can boast.

Now, it seems fairly widely accepted among historians of economic thought (*c.f. inter alia* Sanderlin 2008) that that lacuna comes from Locke's influence on Adam Smith: John Locke's insistence on humans having 'no innate Principles' - in today's language, that humans have no inherent nature, no instincts - being adopted by Smith at the formative or 'framing' phase in economic theory caused the failure of not addressing the question of motivation.

That neglect within economics puts us in the position of needing to look further afield for answers; to disciplines which consider human nature in itself, with psychology and philosophy being obvious candidates.

In psychology, probably the most towering authority is the epochal C.G. Jung, whose general answer for the question of the motivation for human thinking and behaviour was that, broadly, impulsion comes from the subconscious need for security, to assuage 'the longing that is bred from insecurity', and to 'allay the turmoil of doubt and uncertainty' (Jung 2009). Economically, the basic form of security is clearly the provision of material needs; in the contemporary economic and social context, this usually means paid employment to earn enough money to at least attempt to pay for those needs, and possibly some or many wants as well. Yet 'security' is itself a general encapsulation of a range of motivations, and if we wish to be more specific, we can identify sub-motivations as including meaning, certainty, and devotion.

Briefly, 'meaning', said Jung, who was irreconcilably critical of the material or reductionist view of man, 'is something mental or spiritual' (Jung 2009); in the work context, that means meaning comes from satisfaction from the work itself, with that satisfaction ultimately being a movement towards the fulfilment of potential or being, or as he put it, what might 'perhaps have been the urge to life, the bringing into reality of the whole human being - that is, individuation' (Jung 2008). Certainty comes from the stability of employment and the stream of income it implies; and devotion comes from engaging in work one otherwise might not undertake so that others, usually children, a spouse or other dependents are provided for, with the meaning that the vocation of father, mother or other provider is brought closer to actualisation. The rendering of the work shows that they care enough to suffer the burdens of that work for the benefits it confers, namely that one can provide for, that is, *care for* one's family and oneself.

The same can be argued in the case of the one who organises the workers, machines, and capital, who in economics is categorised as an entrepreneur. Both the proximate-cause motives manifested by entrepreneurs, the profit-motive and the mission-motive, can be placed under the sub-motivations of meaning, certainty and devotion.

Revealingly, all these motivations have something in common: they are all a form of *caring*, as in *attending-to*; that is, in the material or production context, ultimately Jung's security motivation is revealed as *taking-care-of*.

And more: there is an ancient and luminous philosophical theme of caring so strong that it constitutes a golden thread. Socrates, for one example, in *The Symposium*, even directly classified money-making as one form of love (Plato 2008). He goes on to answer his self-posed question, '[w]hat are they *doing* that the zeal and *drive* they show can be called love? What does this activity really consist of?' with, 'mortal nature seeks as far as it can to exist for ever and to be immortal', and that 'the only way it can achieve this is by continual *generation*' (Plato 2008, emphasis added). Granting, firstly, that immortality is eternal survival and therefore the superlative

of survival, and that material production is for survival in the temporal or mortal sense, the point is that the 'drive' to 'generate' is for survival and continuation, that is, to take action so that we can persist because we care.

Also, in *The Republic*, among many others instances, he observed, 'if being filled with things appropriate to our nature is pleasurable, then that which is more genuinely filled, and filled with things which have *more being*, would make people more *truly* and genuinely happy' (Plato 2005, emphasis added).

Aristotle, too, found happiness to arise from rendering right *actions*, arguing that, 'the happy state may be shown to be that which is best and which acts rightly; and *it cannot act rightly without doing right actions*'. Thus, if we conceive of 'right actions' as caring, then the link between caring and happiness, deep happiness, is established, at least at the level of argument.

This was also the finding all the way down to the recent philosopher Martin Heidegger: care was the primary theme he discerned when examining human motivation, actually finding that the sense of responsibility he encapsulated as 'care' [*sorge*] constitutes the primordial or foundational element of being itself, or *Dasein*.

Since care is the action of taking action to support, or sustain, or enable, *care is realised through taking action*, and thus, in Heidegger's paradigm, the impulsion to work is a movement towards the actualisation of the person's being *qua* caring, as well as the desire to gain the benefits of the product produced, or the pay therefrom. So, for example, the work which a parent renders to provide for their family in a job they do not value in itself, is ultimately a caring action. Note, incidentally, how similar that argument is to Jung's individuation argument above, *viz*, that we realise our self by rendering meaningful work.

Heidegger further proposed that where care, in the form of action, is *not* taken, anxiety arises from guilt brought about by that sense of responsibility, in other words that taking care to be responsible is a part of who we are.

Also note that caring as 'action' directly means *doing*, or *praxis*, and so is to be critically distinguished from the contemporary Romantic sense of caring as *feeling*; we are in the paradigm of caring as *action*, an attending-to, and thus a Realist paradigm, which is completely separate from a sentimentalist conception of care as an *emotion*.

Interestingly, even in the context of the Will-to-Power paradigm of Nietzsche, which is superficially vulnerable to a criticism of egoism, we still see the command function as caring: 'when you are exalted above praise and blame, and your will would command as a loving one's will, there is the origin of your virtue', thus arguing that even mastery over another should be done out of caring.

At this point, it might perhaps be objected that philosophy and psychology are bound by reason, as is economics, and therefore if we are to discuss human nature, we should 'reach' to transcend such 'cold' rationality.

If we did, what would we see? We see the poets and the religious texts presenting an assured affirmation that caring is supreme. So, to select one brightly shining star from a galaxy of candidates, the poet John Milton versified that 'love, By name to come to call charity, the soul of all the rest', with charity having its Latin meaning of *caritas*, or caring. Milton, of course, thorough biblical student that he was, was writing in the Christian tradition of *caritas* or *agape*, which can be found all through the great scriptural texts of most major religions, for example in propositions such as 'faith, hope, caring (*agape*) abide, these three; but the greatest of these is caring'.

So, while perhaps surprising to us - we who are trained to think of *utility*, and not *caring*, as the mainspring of economic action - it is rather clear that non-economic riches of thought have always considered caring as the foundation, and even aim, of action, and not mere utility.

Thus, what of 'utility'? According to its most illustrious exponent, Alfred Marshall, 'utility is taken to be correlative to Desire or Want'; which immediately establishes the idea of utility as transitive, that is, utility is a desire or want to have or do something, not the thing in itself. Returning to the example above, the desire to earn an income by working in an unenjoyable job, is so that one can care for dependants, not for the money itself, nor the utility the money affords, because in this case, the thing in itself is the actual care which can be rendered by the rewards of the production in question.

Revealingly, Marshall was aware of the risk that his utility concept might be reduced beyond the specifically human framework he had in mind. He noted that there are 'many satisfactions belonging to the development of a man's higher nature, or to use a good old word, his *beatification*' (note original emphasis). Now, beatification means 'the action of *rendering* ... supremely happy or blessed' (OED, emphasis added), the essential points being rendering, as in taking action, and supremely happy, meaning deepest fulfilment, or achievement of highest potential. So Marshall was saying that, in human life, happiness and potential-achievement means caring either for others, or for some purpose or mission.

Note that these - caring and purpose - indeed are also our 'higher nature.' So there emerges a cleaving of utility and caring; that is, we can say that caring is the foundation of utility.

It should also be noted that Carl Menger's earlier definition of utility (i.e. earlier than Marshall's: 1871 versus 1890), viz, 'the capacity of a thing to serve for the satisfaction of human needs', was broader than Marshall's, and thus arguably closer to *caring*. He drew a distinction between economic goods and non-economic goods, with the latter not having a market value (Menger 2007).

All this is to treat utility in its relatively rich or humane initial formulation. Contemporary second-year micro-economics texts books have notoriously reduced it to a mechanistic maximisation exercise, completed according to a specified utility function, which could also be used, for example, as a computer algorithm.

The difference, then, between caring and utility maximisation is this: caring places the core reality of human life at the centre of our understanding of economic action, whereas the reductionist utility maximisation paradigm has artificially and rudely attenuated human decisions to mechanistic calculation.

To summarise, production happens because of the human impulse to *take care by providing* through production, which itself might be the providing of security to oneself and one's dependents. The development and super-specialisation of production that we observe today, mainly in the form of the firm, is a channeling or capturing, or in some cases, a refinement of that primordial instinct.

4. The Elements of Production

4.1 Risk and Production

If the ultimate motivation for production is the desire to care, the centrality of production itself is *risk*. Risk means that the relational positioning undertaken might be unsuccessful: that the elements intended to be positioned are not available (supply risk), or that the arrangement of the elements does not achieve the intended emergent property or properties (design risk that we institutionalise as research and development), or that the emergent property is not valued higher than its total cost of production (market risk), or that the production is destroyed by distribution failures (distribution risk, especially food spoiling, but also where distribution costs are high enough to frustrate voluntary exchange). There is also monetary entropy risk which originates in an unstable value of money over relatively short periods of time (inflation risk), which presently is increasing.

To the extent that the economic cannon has grappled with risk, Ronald Coase, in his famous *The Nature of the Firm*, was correct to identify the instrument of contract as the primary means to make risk explicit, and thus go some way to managing it, but his Chicago colleague Frank H Knight went much deeper in *Risk, Uncertainty and Profit*, distinguishing risk, which is measurable, from uncertainty (Coase 1937, Knight 2018). In practice, neither contracts nor the demarcation of risk and uncertainty can come anywhere near to eliminating risk in production. Thus economists looking at the real economy without placing risk at the centre of the practice of production are in serious error.

4.2 Production and Decision making

Decisions are at the level of judgement, and, from Jung (and psychology generally), we know that judgement is ultimately from the subconscious. As such, personnel hiring decisions are critical to production outcomes, simply because those outcomes depend on decisions that the people involved make. That is, especially in the start-up phase, recruitment has critical-path importance.

Later on in a business's life, institutionalisation can be intense enough that whichever manager ascends to the peak, they will be, in Peter Thiel's description, 'interchangeable managers', meaning that the decisions they make will be the same as any other career manager in that position. Jung went further, arguing that '[u]ltimately everything depends on the quality of the individual, but the fatally shortsighted habit of our age is to think only in terms of large numbers and mass organisations.' (Jung 2008)

4.3 Time and production

Clearly, the arrangement of constituent elements into a new thing necessarily unfolds in time; as Menger correctly observed, '[a] process of change involves a beginning and a *becoming*, and these are only conceivable as processes in time' (Menger 2007, emphasis added).

Thus time is not a constituent element in the way that the inputs for the good to be produced are constituent elements; following Heidegger, who defined time as the horizon of *Dasein*, time in production can be conceived as the chronological horizon of the production of the good.

Contemporary ecological economics has sought to refine the role of time in production (Kümmel 2011), and Oliver Schlaudt offers a summary of the conception of time in this framework as 'a time that runs in one direction and recognises irreversible processes' (Schlaudt 2022).

Also noteworthy in this context is that another contemporary, Tony Lawson, has identified the produced good as 'ontologically irreducible to the lower-level components', that is, once the point of the product having been produced is reached, it cannot then be disassembled into its constituent parts, or at least not as they were before their integration into the thing produced (Lawson 2019), though this is ultimately more an ontological point than a chronological one.

4.4 Spatial dimensions of production

It is clear that production, having materiality as its focus, takes place within space. That is, while space is not a property of production's being, production requires space in which it can be. Also worth noting is that which is produced has spatiality as an element of its being.

For example, car factories are sometimes moved from one location to another, yet the same model of car is produced in the new location is the same as in the old location. And sometimes an entirely new factory is built on the same location as the old factory, and the same model car is produced in the new factory space, just more efficiently. So the spatial environment within which production happens can change, without the actual good produced changing. Thus the same or equivalent production has taken place but within a different space.

Equally clearly, the grand sweep of production history shows that every kind of space has been appropriated by man in which to produce things, from archaic man using caves to produce shelter and warmth, to modern man conducting scientific experimentation aboard space craft orbiting earth, and dramatically placing telescopes inside vehicles stationed a million miles from Earth to produce images of the early cosmos.

The only possible exception to the requirement of spatiality seems to be that of purely theoretical or compositional work, conducted only in the theoretician's mind, which would not require space for production, at least in the sense in which it (space) is being considered here.

4.5 Inputs versus capital

Inputs are the elements which will ultimately constitute the new good, as well as the ephemeral necessities of production, with energy, such as electricity, being the most obvious example.

Capital goods are goods used to implement the relational positioning of the elements. Machines, engines, robots and tools are all in this category. They still exist after the good has been produced, unlike the energy inputs which have been transformed during the production process.

4.6 Inputs versus outputs

The standard production functions - decreasing returns to scale, constant returns to scale, and increasing returns to scale - all assume a continuous relationship between inputs and output, as opposed to a discrete relationship. This is at the surface, and ultimately a symptomatic treatment of the relationship between inputs and production, because the ontical essence of production is the combination of the inputs into new things to achieve the emergent properties of the new thing, and so the assertion of a mechanistic input-output function is heavily reductionist.

Yet, if one is prepared to abstract from the risk, messiness and idiosyncrasies of actual production, and stylise the relationship between inputs and outputs, these functions will arguably suffice as a caricature, depending on each real-world instance of production. However, the important case the production functions miss is that of critical input mass, where there is no output at all, even as inputs are increased heavily, until suddenly a great output is produced. Space-bound rockets, for example, require enough fuel to produce the result of escape velocity,

and all the fuel up to that amount will not achieve the desired outcome; thus in the paradigm of inputs creating outputs, there is zero output until the requisite fuel consumption is achieved, and the relationship between inputs and outputs is not continuous but discreet or catalytic.

Rockets, obviously, are a subset of the general point: in the real world, funding a research and development project until a new product is manifest is the big and truly relevant case where resources are heavily committed without any conclusive result for extended periods of time, until output of a final good is catalysed.

4.7 Energy and Production

As noted above, as constituent elements are arranged to effect production, exogenous energy is almost always used.

The obvious contemporary energy input is electricity, whereas coal was the fuel for the engines of the Industrial Revolution. Today, the question of how to optimise electricity production has assumed critical predominance; for present purposes, the point is to count energy as an input in the production process, because the standard production functions mistakenly leave it out.

4.8 Classifying outputs by use-ranking

Carl Menger, in his famous survey of the groundwork of economics, identified four types of products produced, classifying them by how close they are to being consumed, that is, to being final goods. First order goods are goods which 'serve our needs directly', and he gives bread as an example. Second order goods like flour, fuel and salt, cannot directly satisfy human needs, but can do so indirectly, that is, by being combined into first order goods. Third order goods are what we would call raw materials, such as wheat and rye, and fourth order goods are goods such as instruments and appliances necessary for production, which today we call capital goods (note that he also classifies land and labour as goods) (Menger 2007).

The clarity of Menger's classification order is useful in itself, and also has specific application, viz, if the statistical device for measuring national production, namely Gross Domestic Product, is to be most meaningful through being accurate, it must adhere to its own definition as the 'market value of *final* goods and services produced domestically in a period of time' (*inter alia* OECD 2008, emphasis added) by sharply paring away any goods which fail to satisfy the 'final' or 'first order' criterion.

4.9 Investment and production

Investment has the standard definition of 'capital formation - the acquisition of resources to be used in production' (Palgrave 1998), or perhaps 'the value of the capital equipment which has resulted from the productive activity of the period' (Keynes 1967), or again, 'the accumulation of additional capital goods by means of saving' (von Mises 1998). These definitions now appear generic, that is, there seems to be at least a broad consensus of what investment means.

For our purposes, investment is the commitment of today's resources to enable future production, that is, to produce goods at a time later than today. This is more or less consistent with the contemporary conception of investment recounted above.

It should be stated that the first clear investment was not financial, such as money lending, or the purchase of capital equipment, nor even the production of capital goods: it was the planting of seeds to later reap a harvest, a bargain with time to produce food goods. A people settling in one area (meaning remaining through time) to reap the fruits of their investment in nature remains the great inflexion point in human history, and, for its impact on life, perhaps will never be matched (or arguably might be matched by the now-foreseeable settlement of other planets).

Why is a factory built? Why is physical capital produced? Keynes' answer, famously, was 'animal spirits', which he characterised as a spontaneous '*urge to action*' (emphasis added), but he also used the more meaningful 'constructive impulses', and while inadequate because of their lack of depth for so profound a topic, his generalisations are still much better (because they ascribe a human element to investment) than the mechanistic inverse relationship purported between interest rates and investment by neoclassical economics, which completely ignores the revenue side of investment, not to mention the plethora of other risks which come with investment, and as such has caused many policy errors in the present era of permanent ultra-low official interest rates, without the predicted boom in investment. Keynes, incidentally, essentially foresaw the failure of persistently low interest rates to stimulate investment, writing that 'only experience, however, can show how far management of the interest rate is capable of *continuously* stimulating...investment' (Keynes 1967, emphasis added).

Yet it is clear that a factory is itself the manifestation of something other than itself, namely of the proximate motivation for the production which the factory is intended to produce. Thus the question of the motivation to produce arises. As subsets of the taking-care-of underlying motivation outlined above, and depending on the case being examined, it might be to realise the vision of a founder with a mission, such as Henry Ford building factories to realise his vision of 'a car for everyone', or today, Elon Musk, whose stated mission in making Tesla cars is to 'accelerate the adoption of more environmentally sustainable cars'. In these examples, the construction of the factory to achieve the mission is ultimately a taking-care-of the objective in question, such as allowing cars to be purchased by everyone.

As such, because of the reductionist insistence on 'incentives' as financial gain, economic theory completely misses the 'mission-motivation' of the founder.

Also, the motivation might be a straightforward profit motivation, where the owners and/or managers sense an opportunity to produce profitability, with the resulting funds then used to care for the relevant people. This motivation, empirically, is most responsible for replicating production processes and systems which others - today we call them founders - have created, and thus is inferior from the perspective of introducing productivity gains. In Peter Thiel's useful paradigm, this profit sub-motivation takes production from one to N, whereas founders take us from zero to one (Thiel 2014).

Or it might be mere bureaucratic inertia, such as today's Ford Motor Company moving a factory from Michigan to Mexico or Thailand, as opposed to having a mission, on the apparent logic that because car companies have to build cars somewhere, they might as well choose a low-cost location. In fact, the lumbering nature of large public companies whose founders have long since gone is well-studied and understood through the instrument of the principle-agent problem. It allows us to correctly perceive the Chief Executive Officers of these companies as essentially political operatives managing the Board, while all concerned extract the most they can from the company. This is the profit sub-motive at the individual level at the expense of the company.

4.10 Innovation and production

The history of modern Western production is a history of new technology (directly from the Greek *tecne*, know-how), whether to introduce a new class of product, or to produce already-familiar products more efficiently. Thus technology 'improves' the ability to relationally position the inputs for production, where to 'improve' means, in the case of an existing class of product, to achieve higher output per unit input, or alternatively to produce a new type of product.

Obviously the steam engine and the Spinning Jenny are epochal examples. With steam, either by train, or canal boat, or steamship, man could move (1) heavy objects (2) long distances (3) relatively speedily, which completely re-wrote the parameters of the production calculation which had till then been constrained by pack horses and sailing ships. It facilitated the arrangement of inputs from all over the world, or at least the British Empire, and thus production was transformationally improved.

From where does the new technology come? It comes from the idea for the technology, and the idea itself derives from the imagination of the thinker.

So the idea is the proximate but not ultimate cause of new technology. Yet the idea itself will not suffice, because to have effect it must be put to use, which in turn means the idea must manifest, be built. It must be present-in-the-world. Famously, Hero of Alexandria conceived a steam engine in the first century AD, but the design was not proven in the real world, and thus the idea had no effect on production.

In the present era, as the start-up space (new, small companies with stated business missions or objectives) has been systematised, there has arisen the institution of venture capital, which has as its aim precisely the bringing-into-the-world of the ideas of the companies in which they invest.

4.11 *The Firm and Production*

The firm has long been understood as a locus of specialisation, combined with efficiency gains from price gathering (Coase 1937). Acceptance of this conception raises the question, what benefits of specialisation does the formation of the firm confer? In the context of the present discussion, we can re-phrase the question as, what properties of the assemblage of people and capital, including intellectual capital, into the firm does the firm have which the individuals and capital would not have on their own?

Functionality is the obvious answer, because the firm can produce new things that the individuals could not produce independently. The other point, separate but related, is the reduction in risk that the firm provides, namely that it can produce a product with which it is familiar and has systems for, with less production risk than if the firm did not exist, and secondly a new product can be attempted with less risk because of the systems already in place for existing production.

That is, the firm is a subset or agent of production because it facilitates production, and as such is a realm *in which* production can happen, not an engine of production itself.

4.12 *Exchange*

What is exchange? It is the crystallisation of the creation of value from production. Generally, exchange verifies that the arrangement of constituent elements into a new thing has been achieved at a cost lower than the value to the purchaser. It manifests in the agreement or contract between a buyer and seller to exchange a good for money, or another good.

Forced exchange - as it is often inaccurately called - in the form of taxes, removes the market risk for the state, because a prospective purchaser does not have to value or approve of the services and assets provided in return by the government. As such, the essential or ontical appearance of production - the product produced - is not required to be produced, because failures such as delays, cost overruns, defective machines and so on, are not punished in the market sense of revenues not flowing in. They are immune from the rawness of the cashflow calculus which rules business with an iron rod. There is only the indirect prospect of political costs, such as fewer votes at an election, to constitute risk for government production.

Forced exchange does not have the properties of real or voluntary exchange, as it is not a crystallisation of value but an obligated deprivation of one party, the taxpayer, of their income or

assets, to another, the government. This relation, in itself, has nothing to do with exchange in the economic sense.

4.13 Exchange is not necessary for production

It is obvious, yet worth noting, that not all production is undertaken with exchange in mind. For example, even today, woodsmen catch fish for food to consume straight away, and there is no market mechanism or other exchange involved in that process. We can classify the catching of the fish as production because it requires the decision, under the condition of uncertainty, to arrange the resources (the woodsman and his rod) to achieve a new thing, namely, the caught fish, and thus production has occurred, and it has occurred in the absence of exchange.

Even to expand on the fishing example, a large number of fish caught in high season and then smoked and housed for consumption over the winter could be regarded as an investment because of the inter-temporal nature of the production and subsequent rolling consumption. The investment is the time required to catch the fish and then treat them, or more precisely the next best alternative open to the woodsman during the time the fish were caught. But again, there has been no exchange, and certainly no monetary interest rate, although one could argue that the expected return on the fishing and salting would have to be higher than the expected return on the next best alternative, because otherwise the woodsman would not have decided to attempt to catch the fish.

The same would be said for the felling of trees to be used as lumber to make a cabin; that is, it is an equivalent example of investing time to produce a thing which in turn produces a stream of services, in the absence of any exchange or even prospect of exchange. Another example might be a vegetable garden producing food for the owner to consume instead of sell, or an artist who paints a painting to keep for themselves.

Additionally, in remote communities, we often observe sharing. 'There's no charity involved; it's just sharing', said one member of an Arctic community. So this is communal sharing without monetary exchange, and without accounts; it is just a functioning or healthy community (BBC 2020).

Note that with the rise of super-specialisation, and the fracturing of the local community, such community sharing is less and less observed the modern context. This obviously can be considered as the demarcation of the medieval and industrial revolution eras, but bear in mind that the sophistication of ancient Roman production and distribution also provides a profound example of specialisation on a massive scale.

4.14 Taxes and Production

Taxes increasing is a deeper problem for production than the mere decline in incentive to produce would suggest.

High taxes damage the immediate taking-care-of motivation to produce because by leaving less money with which to care, they directly reduce the ability to take caring action, thus amounting to a diminishing of the care possible from the same production.

High taxes damage the mission-motivation of production because they make the accomplishment of the mission harder, directly due to fewer retained profits which can be allocated back into the research and development program (assuming the firm has reached the profit-making stage), and indirectly because business failure, caused in this context by high taxes, can introduce a culture of business failure which can have severe negative consequences for future production (Thiel 2014). That is, high taxes make the relational positioning of inputs more difficult, even under the condition of a highly motivated staff. When the mission-motivation .

High taxes damage the proximate motive of profit from production because they reduce profits, directly in the sense of taking more from a given profit, and indirectly by lowering the production of the whole economy, meaning that the value of a given production to a potential consumer is lower because they have less money after tax to allocate to consumption.

In short, taxes high enough to punish production directly diminish the ability to take-care-of, and also have a dispiriting impact.

4.15 Production versus Administration

The contemporary conflation of administration with production is one of the most severe and costly mistakes faculty economics has made. For present purposes, it must suffice to assert that administration, being of its nature ancillary to production, cannot have the same value as production, because the product is the intended result, the desired outcome of final good, and the administration can at most merely facilitate the production of the product, and in itself can never replace the product.

Menger's use-classification of goods mentioned above is most useful in removing confusion surrounding the difference between production and administration.

4.16 Central Planning, Production, and the information problem

Even the serious Hayekian (2001) criticism of central planning - that without the information provided by prices, planning is impossible - is only at the surface, which is perhaps why he expanded on the theme in his Nobel Prize Acceptance speech 'The Pretence of Knowledge' (Hayek 1974).

The underlying problem is that even allocation of already existing resources, as opposed to the harder task of the development of new resources, is a propriative act, and as such makes relational positioning decisions. Central planners are too removed from the productive process to know how to do so effectively, and while this manifests in their ignorance of the information in prices, the deeper point is that production is phenomenologically unknown (its literal meaning, unrevealed) to them. Thus the central planning problem is beyond epistemological; given what production is, and given what central planning is, the two can never have harmonious or synchronous relations.

We see this in the most extreme cases of twentieth century central planning, where production was considered the enemy of the planner. Infamous cases include the War Communism of the early Russian Revolution, and later the persecution of the Nepmen, and later still, the Great Famine in the Ukraine, for which there is effectively a complete historical consensus that it was intentionally inflicted by the governmental authorities.

Then China's Great Leap Forward destroyed that country's production, and even productive *potential*, due to the destruction of capital goods in the frenzy of 'steel production'. That is, in all these cases, production became the victim of politics. Thus to the alleged 'information problem' we can add the 'incentive' or dispositional problem of whether the planners ultimately want production at all.

It raises the question, why might central planners be thus opposed to production? These cases of political attacks on production mentioned above bring to light a property of the being of production, namely that because production has the power to transform constituent elements into a new whole, production has creative power. We can say: production is powerful.

It is precisely this power which has provoked the enmity of bureaucrats, and other political people who must monopolise power, because they are jealous of the power production demonstrates.

Thus where we observe production falling victim to politics, it is because the government has commenced a power struggle with the productive sector, and has, for a time, won the battle.

The reduced form of this dynamic is now on show in the democratic socialist West, where taxes and especially regulation, have devolved into power struggles between the productive and administrative sectors.

Yet even the above addressing of the question of central planning has yet to articulate the deeper question of what psychological pre-conditions must be present for it to occur in the first place. C.G. Jung rendered a strong-form conclusion when he observed:

In the clamour of the many there lies the power to snatch wish-fulfillments by force; sweetest of all, however, is that gentle and painless slipping back into the kingdom of childhood, into the paradise of parental care, into happy-go-luckiness and irresponsibility. All the thinking and looking after are done from the top; to all questions there is an answer;

and for all needs the necessary provision is made. The infantile dream state of mass man is so unrealistic that he never thinks to ask who is paying for this paradise. The balancing of accounts is left to a higher political or social authority, which welcomes the task, for its power is thereby increased; and the more power it has, the weaker and more helpless the individual becomes. (Jung 2008)

Note the themes of irresponsibility - perhaps one can say, lack of caring, an interference with the impulse to produce - of the individual, and consequent power aggregation for the government.

5. Conclusion

Economics initially vaguely recognised a role for human nature and the impulses therefrom, but failed to consider in depth, or even specify, their role in economic activity such as production. More recently, it has reduced the originally quite broad conception of utility to a mechanistic narrowness beyond that which its progenitors, Marshall and Menger, intended.

An ontology of economics would specify production as the teleological morphogenesis of the human material realm, and clearly state that the underlying motivation for production is security manifesting as taking-care-of.

Policies which interfere with the natural impulse to take-care-of though production, or which interfere with the processes of production, will reduce production, and in strong-form cases, cause shortages, or worse.

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