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CREATIVITY AND LABOR IN THE MENTAL ECONOMY COORDINATE SYSTEM¹

Abstract: the paper considers the question of searching for a new strategy of civilizational development based on the analysis of objective processes taking place in the world. An attempt has been made to synthesize the key provisions of the theory of noonomy and the theory of mental objects, which originate from the understanding of the future society as a system, in the center of which should be the human creative potential that cannot be replaced by machine production. A number of qualitative changes are being recorded in the socio-economic sphere, allowing for a qualitative transition to a knowledge-intensive method of social reproduction.

Keywords: noonomy, creative economy, mental objects, progress of human qualities, knowledge-intensive production, irreplaceable labor, crisis of capitalism.

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心理经济坐标系中的创造与劳动

摘要: 作者以世界上正在发生的客观过程为基础论述了探索文明发展新战略的问题。作者试图把智慧经济学理论的主要原理与精神性客体理论的主要原理相结合。这些原理的出发点是, 即将到来的未来社会的核心将是无法被取代的人的创造性。作者还指出了社会经济领域发生的一些质变, 这些质变正在推动社会再生产方式向技术密集型过度。

关键词: 智慧型经济、创造型经济、精神性客体、人素质的提高、技术密集型生产、不可被替代的劳动、资本主义危机。

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This is an auspicious event. It is the right moment to embark on a programme of international collaboration. One step we hope can be undertaken is to establish practical programmes of research and education that will support the Noonomy project.

¹ This article was prepared based on the report at the international scientific seminar of the S.Y. Witte Institute for New Industrial Development (INID) on "Genesis of Noonomy: Knowledge. Mental objects. Creativity" (05.04.2023).

I begin with a correction: I previously suggested that ‘mental economy’ is the appropriate translation for the Russian word ‘ноономика’, which I no longer consider valid. This misunderstanding arose from a problem of translation: the English term ‘Noonomy’ is misleading: ‘Noonomics’, the translation spontaneously adopted by interpreters at the SPEC conference, would be less vulnerable to misunderstanding. This is a complex topic and we can return to it later.

A second correction: ‘Creative Industries’ is not an invention of Alan Freeman. It is a tradition of research and policy-making dating back to the 1990s, and spanning many countries; it is a major policy concern of the United Nations. It started in Australia, was adopted in the UK, and is now the concern of many other governments, especially China. It has an extensive tradition of literature and research, of which my own work forms only one strand. So, it is important for Noonomy to engage with it. However, if it is to be properly engaged with, this must be done on the basis of a proper study of it; therefore, we need to establish viable teams who will conduct this work.

Finally, my personal work – on the theory of mental objects – is not restricted to the creative industries but spans the entire range of productive activities in which mental activity of one kind or another is involved. This, I hope to convince you, is a better way to understand what is loosely called ‘knowledge-intensive’ production, and the best basis for realising its human potential. In particular, I hope to convince you that it offers a practical basis for measuring noonomic activity over time and comparing it between nations.

Of course, there will be many other suggestions which I hope to hear.

I will introduce four research questions that I believe require an effective international collaboration. These are:

1. Is the term ‘knowledge intensity’ well-defined?
2. If not, is there a suitable and better alternative?
3. How should we practically measure either knowledge intensity or its alternatives?
4. How can we produce reliable comparative statistics of either ‘knowledge intensive production’ or the alternative which I believe superior: ‘mentally intensive production’?

The aim of these questions is to create authoritative sources of evidence to inform political and business decision-making.

I address the problem that I believe central to the above discussions: what is production?

I pose three challenging questions.

– What do software companies sell? In 2022, two of the top three companies in the world were Apple and Microsoft. What is *use-value* of their product?

– What do media companies sell? The combined sales of the ‘big seven’ media companies (Time-Warner, Disney, Bertelsman, etc) are larger than world sales of oil. What is the use-value of their product?

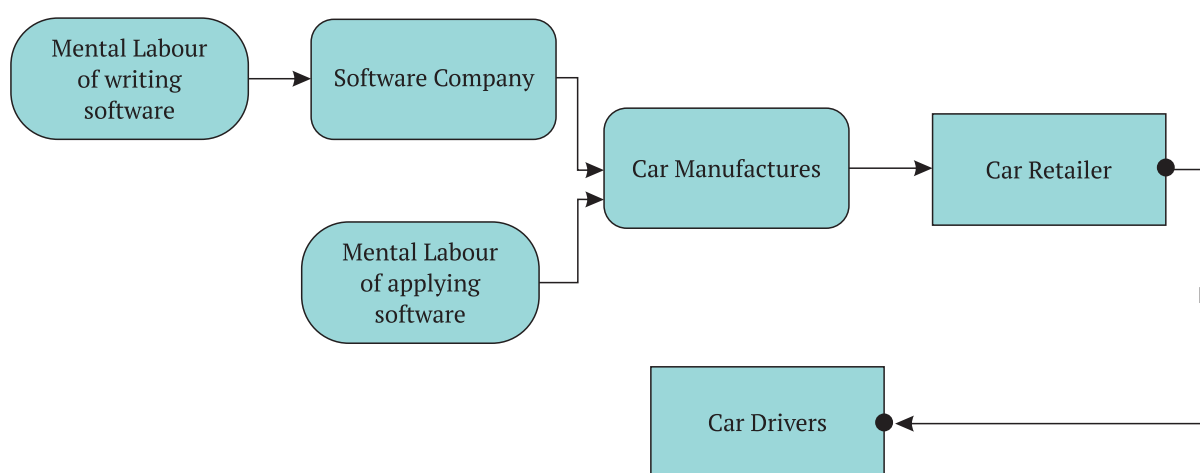
– Can we rightly characterise these outputs as ‘knowledge’? Or is some other, more precise terminology required for a true science of Noonomy?

To begin, note that mental objects can figure both as outputs and inputs. So, for example, high-tech manufacturing is highly dependent on software and indeed, modern cars cannot even start without it. But software is itself produced. ‘Intensity’ should therefore refer both to its function as an input and its status as an output, and these are distinct things. The same applies to outputs such as design, which plays an ever-increasing role in modern production, and of course, science.

Such inputs are of two types, as with any normal manufacturing process: when they are *purchased* as when an architectural company hires a team of designers, a car company buys pro-

prietary software, or when a pharmaceutical company purchase the results of a genomic study conducted by a specialist laboratory. Or, these companies may *hire labour directly to create these inputs*.

The relation between these two types of input is governed by the division of labour, as both Smith and Marx insisted. One of the first tasks of any empirical investigation is to study how this division operates. That is why we have to study, carefully, the relation between the output of a software, design or science-based specialist organisation, and its function as an input when purchased by another company. We have to study this alongside the use made of any such product by consumers, or by the government.



I begin with the *output* of mental objects because it sheds more light on their nature, in that mental production appears in its pure form when it figures as an output. Already, by merely stating this fact, we get a glimmer of the extent of the problem: in order to be sold as a product, software cannot be treated as embedded in the human brain. It is sold in a form in which it is fully alienated from its human origin, but in which humanity is stamped indelibly upon it in such a way that it cannot be usable while so dissociated. It has become a mental object.

I approach the issue via a yet more general question. The modern capitalist economy is now dominated by enterprises that do not sell any material or ‘tangible’ object, loosely termed ‘services’. What do they sell? There are two answers I believe do not stand up to examination.

The first inadequate answer is the claim that these products have no use: we do not ‘need’ to watch films, listen to recordings, visit galleries or live in beautiful buildings. It is vital not to confuse ‘need’ with ‘use’. Use is what people (or businesses) actually do: if the output of one industry enters the activity either of another producer, or the reproduction of a person, then it has a use-value.

To rid ourselves of the ultimately elitist prejudice that we must discount such uses because they are ‘not needed’, we must leave behind us the notion that ‘creative production’ is limited to art. Indeed, the whole point of the ‘creative industry’ revolution was to break free of this idea.

The biggest source of creative production is software, and more generally, ICT, which most certainly does have a use. Not only that, all forms of modern engagement between humans that depend on ICT, from telephones to television and beyond to the modern online world, have uses, including artistic activity. These cannot be reduced to the narrow category of ‘art’, though in my view they have vastly expanded the potential for human artistic self-expression.

We may personally find the uses made of this potential repugnant. That is beside the point. It is not the economists' job to tell people what they need. It is the people's job to tell economists what they need. The market may be a bad instrument for achieving this; in that case the solution is to provide a better means to ascertain real needs; however, I think we have to combat the elitist and reactionary notion which prevails in many academic and cultural circles, that in the absence of a genuine 'democracy of consumption needs' we should substitute a 'dictatorship of the academy' to decide what they are entitled to demand.

That said, we must now turn to the incorrect idea that 'art' is not produced, which I believe stems, however well-meaning, from the questionable roots just mentioned, together with an attachment to Smith's idea, rightly criticised by Marx, that only 'tangible' or physical objects may be repositories of value (which is just another way of saying they are produced). Software is produced; television is produced; movies are produced; music is produced; painting is produced. Design is produced. Scientific theories are produced. These are all branches of production. The problem is not *whether* they produce but *what* they produce. The answer is that they produce mental objects.

If we think software is useless, we should all strip our computers and cellphones free of it and, presumably would all be the better for it. We should probably rip all the telephones out of our walls too, and it is doubtful if we should even allow electricity to enter since it has no tangible form. If something has a use, then a payment for it, like any other payment, must be considered the purchase of a useful product, like any other product, and therefore, making and distributing it constitutes a system of production.

A second inadequate answer is that the payments received by these producers constitute some kind of rent, and not a payment for use. If we think there is a rental component, this may be true but means only that it is a normal commodity in that its price may include a monopoly element: that is, it may be overpriced in which respect it is no different from, say, a car which sells for \$50,000 in one country and \$5,000 in another. Personally, from my 60 years of experience in the software industry, I think the current price for the use of most new software is more or less correct, that is, corresponds to the integrated contribution of labour to its value. To put it another way, it pays for its workers and yields a profit which, whilst larger than its zombie comparators, is no greater than that in any sphere of advanced technology.

Finally, the notion that the only 'true' production is the manufacture of tangible objects leads to the startling conclusion that we already live in an economy already transformed into a totally parasitic caricature of 'true' industrial capitalism. By 2000 only 14% of the labour force of the United States was engaged in Material Production (that is, Manufacture, Construction, Extraction, and Agriculture). In China, only 10% of the workforce is engaged in manufacture and this is declining. In all the world's countries, the proportion of the labour force engaged in material production has been declining since 1950. This is a huge historical trend, and any serious study of the modern economy must provide a meaningful account of it. If we do not recognise it as a genuine expansion of capitalist commodity production, we must provide an alternative account.

The concept of 'mental object' achieves two ends. First, it lets us classify the use value of the non-material industries more precisely than the all-encompassing (and outdated) term 'services'. This is one of the most confused concepts in economics, probably because it is the oldest. Indeed, it is feudal in origin and was originally used to describe the directly personal relation between, say, a lord and a servant. Attempts made by economists to 'modernise' the term are absurd to the point of being comical. It needs a proper replacement. The concept of mental object achieves this.

Chart 1: proportion of employees in the service industries in industrialised countries

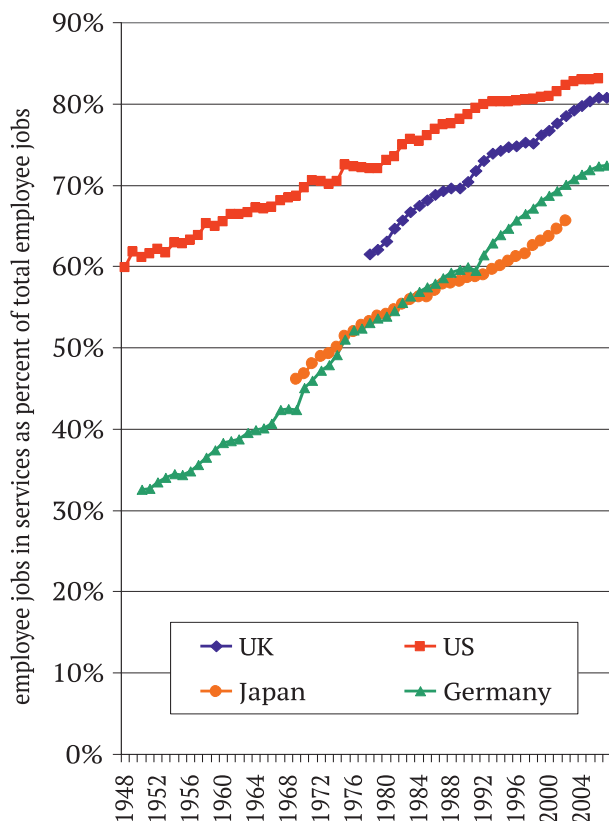
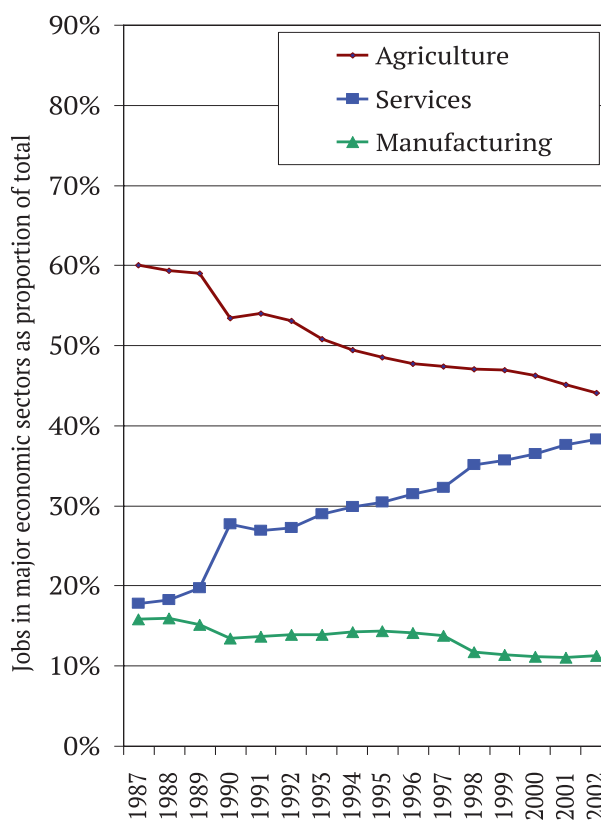


Chart 2: proportion of employees in major sectors, China



Second, this concept lets us define, within the material sectors, the extent of ‘mental intensity’ which, in my opinion, should be preferred to that of ‘knowledge intensity’.

So let us start by classifying the so-called ‘service industries’.

Some of them – notably transport - bring about some change in material circumstance even though their product is not material. These are not necessarily knowledge-intensive by nature. However, it is within these industries that we find those which either produce, or reproduce, mental content.

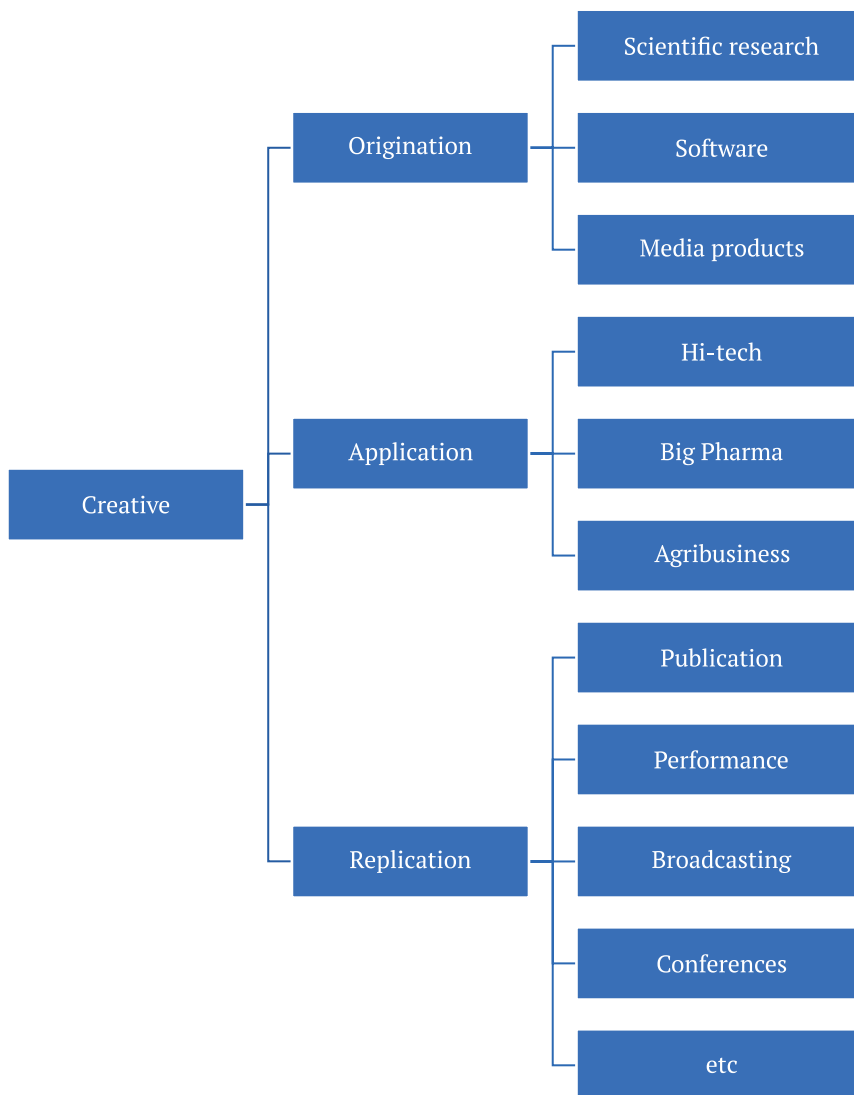
Some services, such as finance, do not create new commodities even though they do create no uses, which is why Marx described them as ‘unproductive’. We will deal with this later; for now, let us concentrate on the *use* of these outputs, not their function within the accumulation of capital.

So, what exactly is a mental object? It is a use-values that is independent of its material form. A computer programme can be implemented on any machine. A film can be viewed in a cinema, online, on celluloid, or CD. A scientific theory or formula is communicated by academic papers, in schools, in books, videos, or even by personal instruction.

Not least, a mental object can take the material form of a thought or an idea in a human brain. The difference is, however, that in this form it becomes *active* instead of *passive*; it determines *actions*.

Because a mental object is *communicable*, a vital distinction arises. The ‘world’ of mental production – under capitalism, the mental economy – has three components. The ‘creative’ component produces mental objects. The *technical* component *puts them to use*. The ‘mechanical’ component *reproduces* them.

Thus, in the first branch of production, new mental objects are originated – writing a programme, discovering a theory, composing a symphony, writing a book. In the second, the object is *interpreted* or *applied*. The scientist makes a new drug, constructs an apparatus, or makes a device. The orchestra performs the musical piece; the computer implements the programme. In the third branch of production, the object is *replicated* in vast quantities – drugs appear in chemist shops, devices are mass-produced, musical recordings are distributed in either a material form such as a record, a tape or a disc or – increasingly – in simple electronic form. Not least, it enters *education*: it is reproduced in textbooks, schools, universities, and moreover in the practical *apprenticeship* in employment through which theoretical knowledge becomes real human capability, for which private capital constantly disclaims responsibility because it puts an end to the historical foundation of industrial capitalism, namely the separation of the producer from the means of production. In the brain of the mental practitioner, the means of production are once again re-united with the producer, depriving capitalism of its most powerful instrument of domination.



This is my principal difference with the concept of the ‘creatosphere’ as defined by Professor Buzgalin. I think the concept is of great value in identifying the *future potential* of creative labour. In particular, I agree with the notion that it is wrong, and anti-human, to seek to *restrict* the availability of creative products or (more generally) mental objects. They should, in a future society, be made available either free or at minimal cost, to as many people as possible.

However, this cannot be achieved if we do not recognise the *real cost of replication*, which society has to meet. The appearance of ‘freedom’ of access to mental products is an illusion, arising from the separation of their production from their reproduction. The cost of reproduction is much smaller than the cost of production, but it is a real cost and demands real work. Perhaps the clearest indication of this fact is the ever-growing centrality of education to social and productive progress, above all the systematic elevation of the age of free universal education. But it would be absurd to propose this should be done without paying teachers. To the contrary, in order to provide *all* humans with education to age 21 and beyond, a vast *expansion* of spending on education is required.

This, the *replication* of mental objects is now becoming the principal source of employment for millions of people – and provides them with an income. If we wish to provide genuine free access to these creative products, therefore, this responsibility has to be taken on by public agencies who must actually pay for these costs, and provide these people with an income.

It is true that restrictions such as Intellectual Property arise from a ‘morbid phase’ of capitalist development in which the institution of private property becomes a giant fetter on capitalist progress, which was not the case in the industrial age. IP inverts the original promise of the industrial age, to provide humanity with a hitherto inconceivable magnitude of material products, vastly augmenting the possibilities to raise humans out of poverty by continuously cheapening these products. In that time, there was no contradiction in principle between the institution of private property and trade without restraint, so ‘free trade’, however hypocritically used, became the watchword of liberal capitalist ideology. Now, the principal demand of Late Capitalism is to restrict the *replication* of ideas.

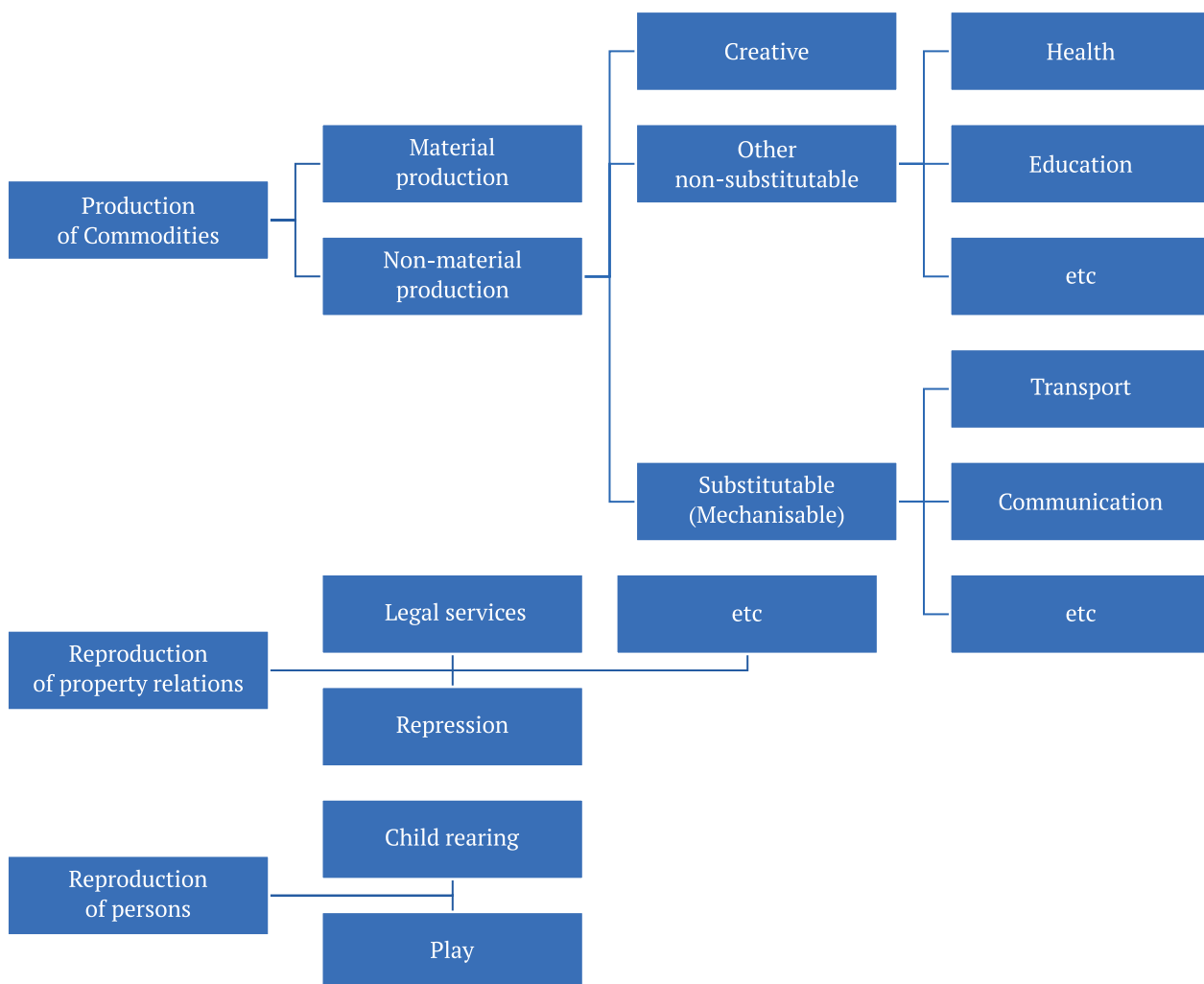
The resolution of this contradiction, however, requires us to recognise that replication is a real cost. It should be met by the state or other public bodies. It cannot however be overcome by pretending that this cost does not exist or does not need to be met.

So much for the production of mental objects. What about their use? Here we encounter the sphere where the notion of ‘intensity’ comes to the fore, and becomes measurable. Our starting point is the definition of *industries* and *occupations*. The notion of ‘branches of industry’ dates back to Smith’s notion of the division of labour: the activities of capitalist production are *specialised* which increases their productivity. Modern accounting pays enormous attention to classifying industries and there are international standards (ISIC) which has the great advantage that it makes it possible to compare their performance, intensity, innovative behaviour, and so on, both between nations and over time. However, the classification system itself is out of date and even somewhat reactionary.¹ In particular the notion of services itself is hopelessly out of touch with modern reality.

¹ It includes, for example, the notion of a primary division of production into Three main parts (primary, secondary and tertiary) being Extraction/Agriculture, Manufacture, and Services. This goes side by side with the colonial Rostowian idea that ‘progress’ consists of the transition from the primary to tertiary, in which the ‘advanced’ countries specialise in tertiary while the rest of the world specialises in primary. This goes together with the Ricardian notion of Comparative Advantage which tells the Third World that its place in the international economic order is to specialise in primaries and products of cheap labour, on the grounds that this is what it does best.

My research suggests a primary division between Material and Non-Material production. Among the latter, which of course is the focus of our interest, our primary distinction is between those that employ *substitutable* (mechanisable) labour, such as transport, in which the proportions between machinery and labour constantly shift in the direction of machinery. Here is where we find Marx’s ‘rising technical composition of labour’ as the dominant rule, and where humanity is steadily suppressed. Next, we find two types of ‘non-substitutable’ labour. These are those in which the presence and interaction of humans with each other is *desired*. The classic examples are health, child care, education, and so on, where though in principle, machinery can substitute (e.g., ‘mechanical nannies’) it just isn’t what people want. Then we have creative production, in which the nature of the labour itself makes it impossible for machinery to replace it. This is mathematically provable (Turing stopping theorem, undecidability of the second-order predicate calculus, etc.)

These second two, I believe, are critical to Noonomy because they represent the true future of a genuinely human system.



Let me finish, having laid the basis for my own ideas on a note of questioning. Noonomy is a new branch of human knowledge, and a new branch of human practice. But as such, it cannot absorb, uncritically, concepts that it has merely taken over from its predecessors. There are three

notions that I believe must be carefully interrogated if we wish to lay an adequate foundation for such a new system of thought. These are the concept of 'service' that I have already mentioned. The second is the notion of knowledge itself; the third is the notion that we must distinguish 'art' from 'production'

Let us note that many human activities do not consist of production – for example, play. Some of these will become more valued and more widespread with progress towards new forms of society. But following the view of Sergey Bodrunov, with which I agree, production will continue, because 'work' will continue – and the function of work is to produce. The issue to address is the nature of this work. In this important sense 'production', like labour, is transhistorical.

By the way, I think we can agree that work is another word for labour.

So, all production involves work. But does all work produce? This could have different answers in different forms of social organisation. This presentation concerns only the here and now; the notion of 'mental objects' is the outcome of a study of present reality, the necessary starting point for any new society we may desire or imagine.

In particular I consider market societies - in Marx's terms, commodity-producing societies.

Even in such societies, not all labour produces: for example, with Marx, I do not consider the labour of real-estate or finance to be productive. They do not sell commodities, but levy private taxes: respectively, rent and interest.

Notwithstanding, Marx strongly argues, and I agree, that *any labour which produces commodities is productive*. He thus disputed Smith on a very important point, which is that production *does not have to be material*. Smith has a *material* concept of production: he argues that only 'tangible' objects have value. Marx however gives the example of a private school, which provides the *intangible* use-value of education. The school, he argues, sells this use to clients. It is therefore productive, just as much as if it were selling books or nails. In the outmoded and wrong terminology of contemporary economic parlance, it is a 'service'.

Nevertheless, it is a sufficient concept to reveal a critical *historical characteristic* of postwar industrial society which is, quite simply, that most work no longer produces material objects.

Let us now consider the contrary proposition, strongly defended by Marx, that any labour that produces commodities is productive. This is also the view of the modern national accounting system. I agree with this.

This means the term 'art' is highly ambiguous. Originally and until surprisingly late in the 19th Century, it was not distinguished from science. The term 'artisan' refers to a worker who employs special skills to make things. The separation of art from science took place only with the onset of mass production, that is to say, the generalised substitution of machinery for human labour.

This separation brought about the bourgeois conception of art as something freely undertaken, which of course, was an option only available to quite well-to-do people. But when we look more closely, we find that the well-to-do relied on an army of labourers who relied on their patronage. Commercial art was born, along with the fiction that art can exist without labour.

Modern artistic production in contrast is organised by capitalist producers who hire labour and sell things. That is, it consists of the sale of commodities. As such it is a form of production. This is not to say 'art' is by its nature productive – so for example if I draw a pretty picture and send it to my friends, or sing in a choir, this is clearly quite different from, say, what Disney or Apple do.

It is therefore mistaken to confuse art with creative production. In fact, the bulk of creative production takes place in the software industry, in the great IT-driven revolution which is transforming all other forms of production. A great mass of creative labour takes place as Professor Bodrunov notes in science, and is invading all spheres of material production including for example car manufacture, construction, agriculture (in the creation and design of ‘designed’ products such as Canada’s Canola) is there.

On the so-called accumulation of knowledge.

Most mistakes that are made, when it comes to the effective understanding of mentation as a human activity, arise from the confusion between merely quantitative accumulation, which is characteristic of material objects, and mental acquisition, in which each new understanding wipes out what was previously considered to be ‘known’ and replaces it by something entirely different.

This ‘entirely different’ new understanding does not simply ‘contain’ what was previously thought to be true but dismisses it as a mere appearance: thus, with the entire idea that the sun goes around the earth.

Therefore, the true measure of knowledge is the depth of our awareness of ignorance.

Since this is unmeasurable by definition, the entire notion that knowledge merely accumulates like a pile of mud or gold, is nonsensical and should be abandoned.

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