

On Entrepreneurs, Innovation, and Market Adjustment in the Writings of J.B. Say *

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1. Introduction and Summary

Contrary to some of the literature on J.B. Say, he did not see market adjustments in terms of a process that would ultimately yield some form of equilibrium or a steady state. His view of the market process would be better characterized in terms of a never-ending dialectical progression of actions and counter reactions. Specifically, Say envisioned market adjustment as driven by entrepreneurs operating in an environment characterized by what we would now call radical uncertainty. Say's adjustment process is based on entrepreneurial reactions to opportunities and challenges. The very notion of 'equilibrium' would probably have seemed a bit strange to him and his contemporaries.

Rather than envisioning some sort of static full information equilibrium, Say saw entrepreneurs as constantly looking for and responding to vent, or market openings. These market openings and trading opportunities would depend on the actions of potential trading partners. Moreover, the very act of trading would in turn create new opportunities and/or challenges that would in turn elicit new responses. Thus the volume, the direction, and the nature of trade would be constantly changing and evolving. Say's writings provide an extensive number of examples of market reactions to unexpected events. In almost all of these examples the reactions of those affected yield new products and new markets rather than passive price and quantity adjustments in existing markets.

It is also in this context of market adjustments that Say rejects the distinction between productive consumption and unproductive consumption that was made by Malthus and some of his other contemporaries. Malthus's basic idea was that any consumption which did not further additional expenditures was 'unproductive' in the sense that it destroyed value without replacing it and thus that it was harmful to society. Say rejected the idea that the supposedly 'unproductive' consumption had in any way a different effect on the economy than the 'productive' consumption. Say's rejection of this idea was based on his specific view on the nature of the market process and on how production and consumption are related in the first place.

The rest of this paper is organized as follows. The next section looks at the context of Say's arguments on markets and considers to what extent his conceptual framework and his circular flow arguments may have been incomprehensible to some of his early critics who were still under the influence of earlier wage fund theories. The third and fourth section of the paper look at differences between Smith, Say and Malthus on the nature of unproductive economic activities and how these ideas in turn affected their understanding of circulation. The fifth section looks at how different perspectives on circulation also led to different explanations of gluts, economic crisis and economic growth. Finally, the sixth and last section reviews how Say's ideas on entrepreneurs and innovations fit into his overall view of markets and economic growth.

2. On the Context and the Interpretation of Say's Arguments on Markets

As explained by Clower and Leijonhufvud (1973), all of Say's arguments on markets and on the links between different markets were based on the simple truism that, since voluntary trade is bilateral, successful trades can only take place when each trading partner is able to offer the other one something of acceptable value. In other words, nothing can be bought unless someone is willing to sell it, and nothing can be sold unless someone is willing to buy it. This simple idea underlies all his arguments on markets and it also led him to explain commercial crisis and gluts in terms of coordination failures. As he saw it, coordination failures that might arise from miscalculations by buyers and sellers, from speculative bubbles or from a variety of unexpected events including wars, confiscatory taxes, trade restrictions, currency failures, unexpected innovations, etc. As for alleged discrepancies in Say's arguments on these issues, these are by and large concoctions of writers who did not understand Say's ideas in the first place and who conflated disparate arguments that Say had made in fundamentally different contexts (see Jonsson 1995 & 1997).

The term Say's Law seems to have been coined by Taylor (1909). As defined by Taylor, Say's Law was a conditional if-then proposition. Specifically, "*if we can assume that producers have directed production in true accord with one another's wants* [italics added], total demand must in the long run coincide with the total product or output of goods produced for the

market."(Taylor, 1909a, p. 94). While this definition of "Say's Law" postdates Say's writings by about a century, it does capture one of Say's key insights, namely, that as long as sellers only offer what buyers wish to buy, then it stands to reason that all goods will eventually be sold and that all markets will clear. On the other hand, whenever producers do not produce things that the buyers wish to buy, we have a coordination failure that might generate a recession. Taylor was quite explicit that the

... proviso which appears in the second clause of the principle,—'assuming that all producers direct their production in true accord with one another's wants'—is necessary; since, if any producer should find that the particular goods he wanted were not offered for sale, he might decide to leave the exchange operation half completed,—selling his goods for money or credit but not using that money or credit to buy other goods. (Taylor, 1909, p. 94)

Of course, contrary to Taylor, the hoarding of money and/or credit is not a precondition for circulation to slow down whenever coordination problems develop. Circulation exists in barter as well as monetary economies and we do not necessarily need to have universally acceptable media of exchange for circulation to slow down. In barter, any durable good can be hoarded. Plus, even the sellers of perishables will reduce the amounts they offer for sale if they find nothing worth their while offered in return. The mistaken idea that whenever circulation slow down it must be due to the hoarding of money was also at the heart Marx and Lange's explanations on the nature of recessions.

In any case, somehow, albeit Say's arguments on markets and economic fluctuations rested on a seemingly obvious truism, over the last two centuries his ideas have often been misread and misconstrued (see Hutt (1973); Clower and Leijonhufvud (1973); Jonsson (1995 and 1997), and Ahiakpor (2001b)). Some of the most influential economists of all time, including Malthus, Marx and Keynes, all had their own strawman versions of Say's ideas. And, while these generally did not capture Say's actual point of view, tendrils of the vast literature promulgating the falsehoods of Say's detractors carry on to this day. Thus Madrick (2014), in a rather obtuse and yet favorably reviewed (see Krugman, 2014) book on the shortcomings of

mainstream economics, specifically invokes the naïve version of Say's Law as a key source of problems.

Rehashing the full history of Say's Law fabrications is beyond the scope of this paper. However, it is important to consider why the misrepresentations of Say were so ubiquitous, why they have persisted, and why they were not immediately debunked by open-minded readers of Say's actual words. One might, perhaps, be tempted to attribute all of this to willful obtuseness, if not flat-out dishonesty, on behalf of Say's detractors. Except, this explanation calls for such a vast conspiracy by Say's readers that it defies reason. Instead, it seems far more likely that Say's arguments on markets, exchange, production, and consumption, etc., albeit simple, were still too incompatible with the conceptual frameworks of his detractors for them to make proper sense of his ideas.

Forget (2010) wrote about the problem of translation across different languages. The critical issues in translation are derived from differences in the underlying conceptual structure of different languages. As Forget (2010, p. 674) put it, translation "does much more than substitute words of one language for those of another." The conceptual structure of each language affects how the words are interpreted. If and when the conceptual frameworks of languages differ, the translator must endeavor to clarify this as part of the translation process. Otherwise, if and when the writer and the reader do not share a conceptual framework, the transmission of ideas becomes difficult if not impossible. In truth the real translation problem is more about translation across different conceptual frameworks than about translation across formal languages. It also applies to transmissions of ideas across time, across intellectual communities, and across schools of thought.

This was the essence of Quine's (1960) thought experiment on radical translation. As Quine saw it, the conceptual structure of language affects what words can mean and hence also which ideas can be expressed clearly. When the meaning of a term is established by a particular conceptual framework it may not be easy to translate that term, or the ideas associated with it, into a different framework. It is in this context that the linguistic relativity hypothesis suggests

that “the particular language we speak influences the way we think about reality” (Lucy, 1997, p. 291).

Effective communication relies on shared concepts and definitions. In this context Forget and Goodwin (2011) have outlined the importance of intellectual communities in the history of economic thought. These communities, to the extent that they provided a shared framework for thinking about the issues, helped advance intellectual cooperation and debate. Indeed, within the shared conceptual framework of an intellectual community, authorship itself may become “a social act” (Forget and Goodwin, 2011, p. 21)

Conversely, when different intellectual communities and schools of thought rely on dissimilar conceptual frameworks, communication can become very difficult. As an example, Jonsson (2014) has outlined how the current scholarly literature on entrepreneurship is produced by several different schools of thought that rely on mutually incompatible concepts and definitions. While most of this literature is written in English, each school uses a different conceptual language that both reflects and also structures how it views entrepreneurs and their role in the economy. Differences in each school’s own set of underlying concepts can sometimes generate different interpretations of the same exact words. In fact, in this literature, there is no universally agreed on definition of the term entrepreneurship itself. The end result has been Balkanization and limited interactions between different schools of thought.

In this context, let us take a closer look at why Say’s detractors may not have been able to translate his ideas into their own conceptual framework and language. The next section of this paper looks at how Say’s ideas on production differed from those of Smith and how Malthus’s devotion to Smith’s definitions may have prevented him from understanding the conceptual framework of Say’s ideas.

3. Smith, Say and Malthus on Productive vs. Unproductive Activities

In bilateral exchange, each side offers something in order to receive something. So, whichever side we consider to be the buyer, and whichever side we see as the seller, is entirely

a subjective matter of perspective. Both sides engage in trade and that is it. This outlook on trade is ingrained in all of Say's arguments on trade. Sellers do not usually offer things just in order to get rid of them; they offer things specifically in order to get something else in exchange. And, in order to get valuable things through trade, they must be able to offer something that others want. It is not possible to understand Say's arguments on markets and trade, or production and consumption, without fully accepting this underlying perspective. Note also that according to this perspective, if something is accepted in trade, whatever it is, it must, from the trading partner's perspective, have had quid pro quo value.

Of course this does not necessarily suggest that the plans of buyers and sellers are mutually congruent. Indeed, as explained over and over by Say (1921), whether it be due to unexpected events or mistakes and miscalculations, sellers often fail to offer things that others would like to trade for. And, when they fail to earn income from sales, this will in turn limit their effective demand for other goods. It is in this sense that Say argued that, even in a monetary economy, successful sales of goods and labor are a key foundation for effective demand. As he put it:

All those who, since Adam Smith, have turned their attention to Political Economy, agree that in reality we do not buy articles of consumption with money, the circulating medium with which we pay for them. We must in the first instance have bought this money itself by the sale of our produce.

To a proprietor of a mine, the silver money is a produce with which he buys what he has occasion for. To all those through whose hands this silver afterwards passes, it is only the price of the produce which they themselves have raised by means of their property in land, their capitals, or their industry. In selling them they in the first place exchange them for money, and afterwards they exchange the money for articles of consumption. It is therefore really and absolutely with their produce that they make their purchases: therefore it is impossible for them to purchase any articles whatever, to a greater amount than those they have produced, either by themselves or through the means of their capital or their land. (Say, 1821, p. 292)

Hence, if and when sellers fail to earn income, this may limit their effective demand for the offering of others. A worker who fails to sell labor will not earn the income that otherwise

might have been used to purchase goods. This was Say's (1821, p. 292) point when he wrote: "if certain commodities do not sell, it is because others are not produced, and that it is the raising produce alone which opens a market for the sale of produce."

To Say, anything that could be successfully traded must have had exchange value. It did not matter whether tradable things were tangible or not. All that mattered was their effect on the circulation. In this, Say differed from both Smith and Malthus. Malthus, following Smith, argued that wealth could only consist of tangible goods, while Say believed that the production of services should be counted as well. Thus to Smith and Malthus labor employed in agriculture or manufacturing was said to be productive since these industries produced tangible goods, whereas labor employed in services was labeled unproductive. As Smith (1776, p. 371) put it:

There is one sort of labour which adds to the value of the subject upon which it is bestowed: there is another which has no such effect. The former, as it produces a value, may be called productive; the latter, unproductive labour. Thus the labour of a manufacturer adds, generally, to the value of the materials which he works upon, that of his own maintenance, and of his master's profit. The labour of a menial servant, on the contrary, adds to the value of nothing.

The point here being that the labor of the menial servant did not "fix or realize itself in any particular subject or vendible commodity," (Smith, 1776, p. 372) and thus it did not represent any creation of wealth. Of course, not everyone agreed with Smith's "fanciful distinctions about productive and unproductive labor" (Gray, 1820, p. 392). We can discern two decidedly different camps on this issue. On the one hand, we have writers like Malthus, Sismondi, and Torrens who insisted on the validity Smith's view, and on the other hand we have writers like Say and Gray, who believed that Smith had been both careless and confused in making these distinctions.

The bottom line is that Malthus used the terms 'unproductive' labor to describe labor engaged in the production of services and 'productive' labor to describe labor engaged in the production of tangible goods. Thus, to Malthus, a menial servant and a physician were both unproductive since neither was engaged in the production of a tangible good, while a baker (even if the fate of the bread created by the baker was to be eaten and thus to vanish just like

the services of the menial servant or the physician) represented productive labor since the bread would exist, however temporarily, as a material object until it was consumed.

To be sure, while Say rejected Smith's arguments on unproductive labor, both Say and Malthus talked about 'productive' and 'unproductive' consumption. However, since their underlying concepts of trade, wealth and production differed, there are fundamental differences in what they actually meant when using these terms.

Following Smith, Malthus (1827, p. 247) started out by defining consumption as any "destruction wholly or in part of any portions of wealth." The term 'consumption' was thus used by Malthus (and by other classical economists, including Say for that matter) to describe some very different things, namely, this term was used both to depict what we now refer to as production costs as well as what we now refer to as consumption. In this context, Malthus used the term 'productive consumption' to describe the "consumption or employment of wealth by the capitalist, with a view to future production" (1827, p. 247) As for how unproductive consumption differed from productive consumption, Malthus put it this way:

The only productive consumption, properly so called, is the consumption or destruction of wealth by capitalists with a view to reproduction. This is the only marked line of distinction which can be drawn between productive and unproductive consumption. The workman whom the capitalist employs certainly consumes that part of his wages which he does not save, as revenue, with a view to subsistence and enjoyment; and not as capital, with a view to production. He is a productive consumer to the person who employs him, and to the state, but not strictly speaking, to himself. (Malthus, 1827, pp.258-259)

Here, it is important to note exactly how Malthus defines his terms. As we have already seen, Malthus used the term production strictly to describe the "creation of objects which constitute wealth" (Malthus, 1827, p. 235), and to him, these objects were exclusively material things. Malthus's definition of what constituted productive consumption thus included only costs incurred in the production of tangible goods and excluded costs that were incurred in the production of services.

This is where we find the telling difference between Say and Malthus on the concepts of productive and unproductive consumption. If we do not keep in mind Malthus's underlying definitions of the terms wealth and unproductive labor, the arguments of the two on productive and unproductive consumption might seem quite similar. Say, like Malthus, argued that the

... immediate effect of consumption of every kind is the loss of value, consequently, of wealth, to the owner of the article consumed. This is the invariable and inevitable consequence, and should never be lost sight of in reasoning on this matter. A product consumed is value lost to all the world and to all eternity; but the further consequence that may follow, will depend on the circumstances and nature of the consumption.

If the consumption be unproductive, there usually results the gratification of some want, but no reproduction of value whatever; if productive, there results the gratification of no want, but a creation of new value equal, inferior, or superior in amount to that consumed and profitable or unprofitable to the adventurer accordingly. (Say, 1821b, pp. 163-4)

Clearly, like Malthus, Say used the term 'productive consumption' (or reproductive consumption) to describe production cost. And, like Malthus, he used the term 'unproductive consumption' to describe what we now term consumption. The difference between Malthus and Say in their use of these terms lies in the fact that Say did not see the production of services as being inherently less productive than the production of material goods. Thus, unlike Malthus, he did consider the production costs of services to be unproductive consumption.

Moreover, while Say (1821b, Book III, Chapter 5) did discuss the problem of 'injurious' consumption, he was quite explicit in pointing out that this problem was "applicable to every class of product" (Say, 1821b, p. 174) and not something to be specifically associated with services per se. Ultimately, all "products are consumed sooner or later; indeed they are produced solely for the purpose of consumption" (Say 1821b, Book III, Chapter I), and thus the only difference between material goods and services is the fact that some time may pass until material goods are eventually consumed.

The bottom line here is that according to Say, while all final consumption was by definition unproductive, costs incurred in the production of services per se were just as productive (or reproductive) as costs incurred in the production of tangible goods. Moreover, eventually, both the services and the tangible goods are consumed, or used up and destroyed, and this represents the unproductive consumption of these. Everything that is produced (through productive consumption) is in this sense eventually consumed unproductively. Moreover, the only reason any product is created in the first place is so that it may be consumed, and without an expectation of a demand for the eventual unproductive consumption of goods there would be no production in the first place. All production costs (including costs incurred in the production of services) add to the circular flow, and this was what really mattered. Moreover, from a seller's perspective, it is the existence rather than the source of effective demand that matters. As Say put it in his Letters to Malthus:

I cannot perceive on what account you look upon reproductive expenditure, such as that which is occasioned by digging canals, building shipping, erecting manufactories or barns, constructing machines, paying artists and artisans, as less favorable to producers than unproductive expenditure, or that which has for its object only the personal gratification of the prodigal. (Say, 1821, p.38)

4. Say vs. Malthus on the Nature of the Circular Flow

The bottom line here is that Malthus's notions of unproductive labor and consumption were, from Say's perspective, based on a deficient understanding of trade, of wealth and of the circular flow of income and expenditures. Given the differences in their conceptual frameworks and in their definitions of terms, their communications were generally at cross purposes. Malthus, as a reader of Say, did not interpret Say's arguments in the context of circulation and hence did not make proper sense of Say's arguments. Say did not accept the distinction between productive and unproductive labor and hence he had no respect for Malthus's arguments on that issue.

Gray, who along with Say also rejected Adam Smith's and Malthus's definitions, came up with a view of the circular flow that was quite similar to Say's. Gray (1815, p. 612) argued that

wealth should be defined in terms of all relevant “materials of well-being, or happy living” and thus that it was the “means of procuring these materials” that represented one’s wealth. In this context, Gray also believed we should reject

any distinction between the various classes of circulators, which would at all justify us in using the terms *productive of wealth* to some and *unproductive* to others, as implying a natural difference. They are all alike assistants to one another in the production of wealth, and render one another more productive than they would be, were any of them withdrawn from society.” (Gray, 1820, p.405)

Both Say and Gray saw the circular flow of income and expenditures as made up of voluntary bilateral trades in which value had to be offered for value. And in this context, the material character of goods was hardly as significant as their exchangeable value. Only exchangeable value mattered, since “what is the use of supplying, unless there be a demand, and unless the demanders have a means of paying? To supply what there is no demand for, whether corn, cloth, or houses, will produce no wealth but the reverse. It will impoverish the suppliers.” (Gray, 1820, p.390)

In procuring income, what matters is that others be willing and able to buy what we offer for sale, not whether the things we produce are tangible. Ultimately, productive (or wealth producing) industry “is represented by the industrious of all classes,” those who produce services as well as those who produce tangible goods, who contribute to the circular flow of income with the proceeds from their industry:

It is with the rent, interest, and wages, which form the profits resulting from this production, that the producers buy the objects of their consumption. These producers are at the same time consumers; and the nature of their wants, influencing in different degrees the demand for different kinds of produce, is always favorable, where liberty exists, to the most necessary kind of production; because that, being the most in demand, affords those who produce it the greatest profit. (Say, 1821, p. 15)

To Say, whether the ‘most necessary kind of production’ consisted of services or tangible goods mattered less than whether and how the good in question fit into the circular flow of income and expenditures. But Malthus, who did not share Say’s ideas on circulation,

dismissed this argument completely. Malthus was a dogmatic defender of Smith's distinction between productive and unproductive labor in his *Wealth of Nations*. In fact, Malthus argued that all of Smith's work rested on this distinction. As Malthus put it, "some such distinction must be considered as so clearly the corner-stone of Adam Smith's work, and the foundation on which the main body of his reasonings rests, that if it be denied, the superstructure which he has raised on it must fall to the ground." (Malthus, 1820, p. 37) Malthus's one complaint with Smith's definition of wealth as consisting of tangible goods only was that Smith had failed to "adhere to it with sufficient uniformity" (Malthus, 1827, p. 11).¹

Malthus's dogmatic insistence on the distinction between productive vs. unproductive consumption prevented him from fully grasping the circulation arguments of Say and Gray. Thus, in rejecting their arguments, Malthus insisted that in defining wealth, the "line, which seems most natural to draw, is that which separates material from immaterial objects, or those which are capable of accumulation and definite valuation, from those which rarely admit of these processes" (Malthus, 1820, p. 28). Or, in other words, wealth consisted strictly of the "material objects necessary, useful or agreeable to man, which have required some portion of human exertion to appropriate or produce" (Malthus, 1827, p. 234). And it is specifically in this context that Malthus saw productive labor as "labour which is so directly productive of wealth as to be capable of estimation in the quantity or value of the products obtained", (Malthus, 1827, p. 236) and unproductive labor as "labour which is not directly productive of wealth." (Malthus, 1827, p. 236). Thus, to Malthus, when it came to workers who provided services, though their services might be "useful, and tend indirectly to stimulate the production of wealth by increasing demand, it would be confounding all natural distinctions to call them productive laborers. It would be equally incorrect to assert that the unproductive laborers of Adam Smith necessarily create the wealth which pays them." (Malthus, 1820, pp. 43-44)

¹ Malthus chided Smith for not having precise enough definitions in general, regardless of how clear the meaning of his terms was from the context of his writings. Malthus said of Smith that "he is sometimes deficient in the precision of his definitions; and does not always, when adopted, adhere to them with sufficient strictness." (Malthus, 1827, p.11)

We have seen that Say's rejection of this distinction between productive and unproductive labor was based on his view of trade and exchange. To him wealth was based on exchange value and thus had to include everything that could be traded for other things of value. Gray (1820) had a position on this that was very much in line with Say. Thus, in a public letter to Malthus, Gray argued that the very willingness of people to pay for services had to mean that services were worth something and therefore that the value of services had to be considered when we considered the aggregate value of an economy's output. Specifically, in the context of the circular flow of income, Gray argued that services were not in any significant way different from manufactured goods. And in the context of Smith's argument on menial servants not supplying productive labor, Gray noted that "... by supplying that portion of wealth or human comfort called service, they obtain an income; and either by expending the whole, or by expending a part and saving a part, they become demanders to the whole amount, or partly demanders and partly suppliers; — the latter, either by employing their capital in certain lines themselves, or by lending it to others to employ it." (Gray, 1820, p.392)

In other words, when buying or selling something of value, it makes no difference whether we are talking about tangible goods or about services. The only thing that mattered was that both goods and services played the same role in the circular flow of income: "Nature divides her children, in her process of circulation and of creating wealth, which is the result or production of it, into income circulators and expenditure circulators; and every individual, on her system is both alternatively." (Gray, 1820, p.389)

So, when it came it to the distinction between productive and unproductive labor, Gray proclaimed:

I see no force in this sort of reasoning at all, to prove an essential distinction between one set of circulators and another; or to exhibit the one as enriching a country, and the other as living upon the former and impoverishing the State. Where lies 'the difficulty of conceiving,' on the productive system, 'the use of saving from revenue,' say, of a cotton manufacturer, to add to capital? Is it not to enable him to supply more extensively; and of course, to draw more extensively from the purses of his demanders in the other lines, whether they belong to the cultivating, the clerical, legal, medical, or musical classes? Or how

is it the least necessary, that there should be an essential difference between them, as to producing and not producing wealth, provided that he gets the profit or income from them that he wants. (Gray, 1820, p.390)

This is clearly also Say's point when he tells Malthus:

You say, Sir, that the distinction between productive and unproductive labour is the corner-stone of Adam Smith's work; that to recognise as productive, labours which are not fixed in any material object (as I do) is to overturn that work from top to bottom. No, Sir; that is not the corner-stone of Smith's work; for when that stone is removed, the edifice, although imperfect remains as solid as before. What will eternally sustain that excellent book is, that it proclaims in every page that the *exchangeable value* of things is the foundation of all riches." (Say, 1821, p. 20)

If, as Say suggests here, Smith's main relevant point is that the exchangeable value of things (both goods and services) is the foundation of wealth, then Malthus is relying on the authority of Smith, rather than the logic of Smith, in sticking with the distinction between productive and unproductive labor. It is in this spirit that Say noted:

I revere Adam Smith—he is my master. When I took the first steps in political economy, and when still tottering ... he shewed me the true path. Supported by his *Wealth of Nations*, which shews at the same time his intellectual wealth, I learned to go alone. Now I have ceased to belong to any school and I shall escape the sort of ridicule which attached to the reverend father Jesuits who translated the elements of Newton with annotations. They were sensible that physical laws would not square well with those of Loyola; they therefore took care to inform the public by an advertisement, that, although they had apparently demonstrated the motion of the earth to complete the theory of celestial physics, they nevertheless bowed with submissive acquiescence to the decrees of the Pope, who did not acknowledge this motion. I submit only to the decrees of eternal reason, and am not afraid to declare it: Adam Smith has *not embraced all the phenomena of the production and consumption of wealth*; but he has done so much that we ought to feel the deepest gratitude for his exertions. (Say, 1821, p. 20)

Here, it is worth noticing that Say seems to be needling Malthus in a couple of different ways. An awareness of this occasionally bantering and humorous quality of Say's *Letters to Malthus* may help us to put the debate between the two in the proper perspective. First, the reference to how the reverend father Jesuits deferred to the authority of Loyola and the Pope is clearly a dig at the reverend Malthus's deference to the authority of Smith. And, Malthus did indeed put a great emphasis on Smith's authority. Several years after this exchange, Malthus's main objection to Say's definitions was still that "he has gone directly against the usage of the best writers in political economy, and particularly against the authority of Adam Smith, whom he himself considers as the main founder of the science." (Malthus, 1827, p. 20) Notice also that in his *Political Economy*, Malthus (1820, p. 49) had specifically mentioned Newton's discoveries as an example of unproductive services, and one may well presume that Say's choice of Newton in the above example is intended as an echo some of Malthus's own arguments.

In any case, one of Say's key arguments was that all factor services have an immaterial quality and thus that singling out the immaterial characteristics of the output generated by those who produce services was disingenuous. As Say put it in his *Letters to Malthus*:

You say, Sir, that many commodities are purchased with labour; I go farther than you: I say, they are all purchased with labour, extending that expression to the services rendered by capital and land. I say that they cannot be purchased by any other means; that the value and utility of all things in all cases are produced by such services; and that the alternative is thus presented to us: either consume ourselves the utility, and consequently the value which we have produced, or to employ it in the purchase of the utility and value purchased by others; that in both cases we purchase commodities with productive services, and that the more productive services we carry to the market, the more we can buy in return.

You assert that there are no *immaterial productions*. Why, Sir, originally there were none other. A field, for instance, furnishes toward production only its service which is an immaterial product. It serves as a crucible into which you put a mineral, and extract metal and dross. Is there any part of the crucible in these products? No; the crucible serves for a new productive operation. Is there any

portion of the field in the harvest which is obtained from it? I answer likewise, No ... (Say, 1821, pp. 15-16)

To Say, Malthus's emphasis on whether a factor's services yielded material or immaterial products was nothing but a chimera (Say, 1821, 16-17). He even suggested, somewhat facetiously, that since matter is not created (but rather transformed) in production, all production efforts generate value which is, strictly speaking, immaterial in the sense that new matter is not being created. In context, this reads as if Say is pulling Malthus's leg a bit. Nevertheless, ever the straight man, Malthus later responded to this by noting "The object of M. Say seems to have been to show, that production does not mean production of new matter in the universe, but I cannot believe that even the Economists had this idea; and it is certain that Adam Smith's definition of production completely excludes it." (Malthus, 1827, p. 21)

5. Innovation, Gluts, Economic Fluctuations and Economic Growth

Say's focus on the logic of trade and circulation was at the heart of his explanation of commercial crisis. Say was quite clear that a number of different situations and events could impede the circular flow:

Circulation is much more apt to be interrupted by the obstacles thrown in its way, than by the want of proper encouragement. Its greatest obstructions are, wars, embargoes, oppressive duties, the dangers and difficulties of transportation. It flags in times of alarm and uncertainty, when social order is threatened, and all undertakings are hazardous. It flags too under the dread of arbitrary exactions, when every one tries to conceal the extent of his ability. Finally it flags in times of jobbing and speculation, when the sudden fluctuations caused by gambling in produce, make people look for profit from every variation of mere relative price: goods are then held back in the expectation of a rise, and money in the prospect of a fall; and, in the interim, both these capitals remain inactive and useless to production. (Say, 1821b, Book I, Chapter 16)

In explaining recessions and widespread gluts, Say focused on impediments to circulation rather than on the distribution and composition of wealth. Malthus, on the other hand, possibly influenced by earlier wage fund ideas, focused specifically on the composition of

wealth and its effects on expenditures. Thus, Say glossed over Malthus's insistence on the material nature of wealth, while Malthus did not seem to grasp Say's arguments on the logic of circulation.

It is important to note here that Say took it for granted that entrepreneurs would continually be adopting new technologies, increasing productivity and creating new goods and services. And, while changes in production and the appearance of new goods and services might prove disruptive in the short run, these would also create market openings (or vent) for the offerings of other producers. While unexpected innovations might throw some producers for a loop, through what Schumpeter later called creative destruction, producers who now faced a situation in which they could no longer sell their offerings would inevitably adjust rather than persist in offering goods that no longer could be sold.

The historical context is important here. Say witnessed how the industrial revolution, spurred by series of creative responses and innovations, followed a path on which new discoveries were regularly made specifically in response to earlier ones. In some cases, a single innovation set in motion a cascading avalanche of responses. Consider, for example, the aftermath of Watt's refinement of the steam engine in the late 18th century and how it accelerated the first industrial revolution (Von Tunzelmann and Nicholas, 1978). After Watt's patent expired in 1800, his version of the steam engine was progressively refined by a number of other inventors. The increased power, efficiency and applicability of steam power was then used to run new and better mills, ships, locomotives, machine tools, etc. Fueling all these steam engines also called for improvements in mining, in transportation and in the supply of coal and coke. In each affected industry the use of steam engines opened up further possibilities for new inventions and improvements in other industries

For example, the textile industry used steam engines to drive mechanical looms with improved flying shuttles, yielding massive improvements in the efficiency, quality, and the total volume of output. In turn, the availability of cheaper and better textiles affected a variety of other industries. Similarly, in the steel industry, steam engines paved the way for innovations such as the use of steam driven mechanical hammers, improved techniques for making pig iron

from ore, and Bessemer converters for turning pig iron into steel both quickly and easily. Together these innovations generated a massive increase in steel production. This in turn created opportunities for all kinds of innovations in products and processes in other industries.

Say was quite clear and explicit in writing about how innovations in any given industry tend to spur innovations in other industries. Consider, for example, his discussion on how improvements in papermaking and in printing went hand in hand and how the resulting abundance of printed books in turn helped spread practical knowledge across different industries (Say, 1821b, Chapter 6). Smoother and stronger paper reinforced with cotton fibers not only made printing easier, the improvements in printing in itself called for further improvements and growth in the papermaking industry. And, while these innovations would inevitably force adjustment across different industries, through what Schumpeter later called creative destruction, eventually new tradable products would create vent for other products:

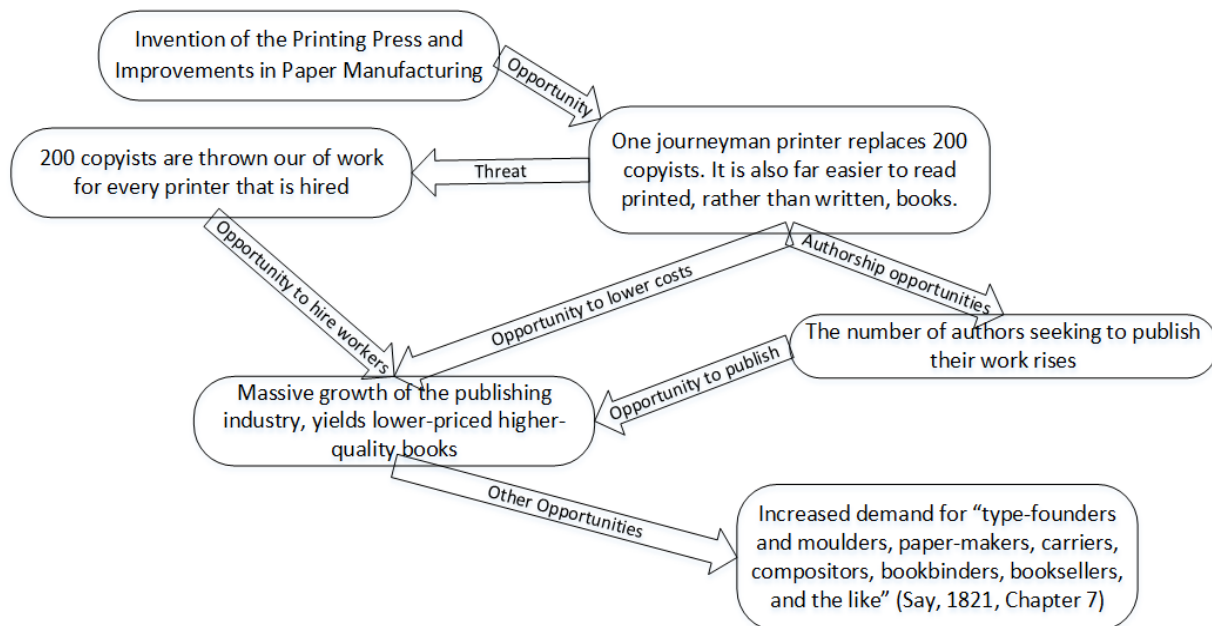
When printing was first brought into use, a multitude of copyists were of course immediately deprived of occupation; for it may be fairly reckoned, that one journeyman printer does the business of two hundred copyists. We may, therefore, conclude, that 199 out of 200 were thrown out of work. What followed? Why, in a little time, the greater facility of reading printed than written books, the low price to which books fell, the stimulus this invention gave to authorship, whether devoted to amusement or instruction, the combination, in short, of all these causes, operated so effectually as to set at work, in a very little time, more journeymen printers than there were formerly copyists. And if we could now calculate with precision, besides the number of journeymen printers, the total number of other industrious people that the press finds occupation for, whether as type-founders and moulders, paper-makers, carriers, compositors, bookbinders, booksellers, and the like, we should probably find, that the number of persons occupied in the manufacture of books is now 100 times what it was before the art of printing was invented. (Say, 1821b, pp. 41)

Additionally, new books would create vent for other products in the sense that anyone **who** wanted to buy new books also had to come up with something of value that could be traded for these books. As Say saw it, the process of innovations, once set in motion, was often self-sustaining. He believed that future innovations would build on current ones and that the

economic growth associated with innovation had what we now refer to as positive externalities. Moreover, to the extent that the knowledge embodied in new products and processes becomes available to all it has certain public good aspects.

It was specifically in this context that Say (1821b, pp. 33-36) argued the case for public funds to support the search for new knowledge and to support the diffusion of innovations across the economy. Not because he thought that these processes would stop otherwise, but because he believed that processes of innovation might be accelerated for the overall benefit of society. He was quite clear that innovation in the present will not just benefit the current generation of innovators and those who trade directly with them; it will also have benefits across other sectors of the economy and set the stage for further innovations by future generations.

Figure 1: The opportunities, threats and ultimate employment effects derived from the invention of the printing press (as described by Say, 1821, Chapter 7)



6. Say's Entrepreneur

Jonsson (2017) has demonstrated that the term entrepreneur is far older than most of the current entrepreneurship literature suggests. And, the underlying idea of the entrepreneur is far older than the term itself. Even so, Say seems to have been the first economist to really focus on the role and importance of what Schumpeter (1947) later referred to as creative responses in the economy. And yet, even though Say's ideas on entrepreneurship and creativity were integral to his arguments markets, this is often ignored by those who comment on Say's ideas. In truth, Say's arguments are often misconstrued as if they had been made in the context of 20th century general equilibrium framework in which there is no such thing as uncertainty or creative actions to respond to uncertainty. The following quote represents an outrageously false and yet a commonly repeated misrepresentation of Say:

Say regarded the entrepreneur as a manager of a firm; an input in the production process. The entrepreneur acts in the static world of equilibrium, where he assesses the most favorable economic opportunities. The payoff to the entrepreneur is not profits arising from risk-bearing but instead a wage accruing to a scarce type of labor. Say highlighted, in that way, that the role of the entrepreneur is separated from that of the capitalist. (Iversen et al, 2008, p. 5)

Note that this is, in fact, the exact opposite of Say's argument both on what it means to be an entrepreneur and also on the distinction between entrepreneurs and capitalists. To Say, anyone who took part in production and trade had to have some entrepreneurial initiative and creativity. Also, in order to participate in economic activity we must all have some capital in the sense that we must gather and employ a variety of different resources. In Say's time workmen, including common laborers, carpenters, masons bricklayers, and tailors, usually had to provide their own tools (Say, 1821b, Chapter 5). At a minimum each of them had to set the stage for selling their labor by showing up in appropriate clothing. In this sense, each of them had to make some capital commitment before they could participate in trade. This was Say's point when he noted (Say, 1821b, p. 25): "A man who cultivates his own garden at his own expense, is at once the possessor of land, capital, and industry, and exclusively enjoys the profits of proprietor, capitalist and labourer." So, contrary Iversen et al., not only did Say not suggest

that the entrepreneur is in some way separated from the capitalist, rather Say argued that the different roles are often inextricably linked. In other words, the successful capitalist is generally also an entrepreneur and vice versa.

Success in trade calls for alertness to new opportunities and challenges as well as an ability to adjust and respond creatively to changes in the economic environment. Say gives numerous examples of how innovations sometimes create ripple effects across a variety of different occupations. For example, Say (1921b, Chapter 6) outlined how improvements in glass making also called for other new building materials which in turn changed the construction industry and called for a variety of new skills and occupations. New knowledge creates new opportunities and “the cultivator, the manufacturer, the trader, make it their business to turn to profit the knowledge already acquired” (Say, 1821b, p. 33). Of course, not all of their attempts to apply new knowledge will be successful, but as entrepreneurs grope for profit through trial and error they also learn both from success and from failures. As Say put it, entrepreneurial actions in the face of uncertainty are also an “experiment, which is always attended with more or less of risk, and does not always indemnify the adventurer, whose profit, even when successful, is moderated by competition” (Say, 1821b, p. 34). So, given Say’s actual words on this issue, when Iversen et al. (2008, p.5) insisted that from Say’s point of view “payoff to the entrepreneur is not profits arising from risk-bearing but instead a wage accruing to a scarce type of labor”, this argument is so off the mark that it actually seems more hilarious than offensive.

In any case, Iversen et al. are not the only writers who have tried to force Say’s arguments into a general equilibrium analysis framework. As explained by Weintraub (1993) the general equilibrium model has provided the references framework for generations of economists. Unfortunately though, as outlined by Jonsson (2014), to the extent that this framework has set the conceptual structure and the language of today’s mainstream economics, it has focus our attention on the allocation of existing goods, rather than the creation of new ones. Thus, following Lange’s (1942) most unfortunate and confused restatement of Say’s law, most attempts to formalize the meaning of Say’s arguments on

markets have tried to do this in the context of a given set of known goods. Unfortunately, this misses critical aspects of Say's arguments on both the relationship between markets and also on adjustment to economic crisis. To Say, the creation of new processes, goods and services were all critical to the economic adjustment.

The point here is that just as Malthus had a blind spot on trade and circulation, today's mainstream economics has a bit of a blind spot when it comes to new goods and services brought forth by creative processes. Jonsson (2014, section 3) has outlined how this is reflected in the JEL classification code, which does not really allow for proper classification of Schumpeterian creative responses. The early classical economists, by contrast, were unburdened by the limiting scope of general equilibrium thinking. Say, in particular, was not only aware of the interplay between creative responses, he specifically wrote about a number of different, clearly dialectical, sequences of creative actions and counter reactions. And, unlike a general equilibrium focused path towards a full information steady state dialectical processes do not necessarily follow a pattern that can be discerned in advance.

Malthus was probably less confused about Say's arguments about the role of entrepreneurs than he was about the logic of the circular flow. However, unlike Say, he did not agree that rising productivity from innovations would eventually yield a higher standard of living. Here Malthus argued that that rising productivity would inevitably give rise to gluts since the consumers' desire for goods was limited. As Malthus put it, if society was to set aside too much capital in order to increase future production

there cannot be the least doubt, on the great principles of demand and supply, that the profits of capitalists would soon be reduced to nothing ... and the population would be thrown out of work and would be starving, although without a single tax, or any restriction on trade. (Malthus, 1820, p. 497)

Supposedly, the problem was that a limited desire to consume could permanently hold the economy back. Innovations that increased productivity would eventually outstrip people's limited willingness to consume. As Malthus put it, at some point

the power among capitalists of supplying the results of productive labor would be much greater than the will to consume them, and the progress of wealth would be checked by the want of effective demand. (Malthus, 1820, p. 431- 432)

This is why Malthus focused on the effects of income distribution, or the changing proportion of productive to unproductive consumers (see Malthus, 1820, pp. 427-440) in explaining gluts. According to him, these were the things that might affect the aggregate willingness to consume, since, as he later put it, "it has always been found that the excessive wealth of the few is in no respect equivalent, with regard to effectual demand, to the moderate wealth of the many."(Malthus, 1836, p. 375)

It is in this context that Malthus maintained that the productivity of a nation was less important a determinant of its prosperity than things like the proportions of different classes to one another, the income distribution, and the division of land:

It will be found, I believe, true that all the great results in political economy, respecting wealth, depend upon proportions; and it is from overlooking this important truth, that so many errors have prevailed in the prediction of consequences; that nations have sometimes been enriched when it was expected that they would be impoverished, and impoverished when it was expected that they would be enriched; and that such contradictory opinions have occasionally prevailed respecting the most effective encouragements to the increase of wealth. (Malthus, 1820, pp. 432-433)

Perhaps we could think of this as is an early version of Piketty's (2014) arguments on the effects of capital accumulation. In any case, Schumpeter (1954, p. 740) suggested that Malthus should be "debited" rather than credited for his underconsumption theories since, "the principal comment to make upon Malthus' dissent from Say is *not* that he may not have done justice to possible elements of truth in Say's practical conclusions, but that he did not understand the *theory* at the back of them."(Schumpeter, 1954, p. 623 in a footnote)

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Please excuse the inconsistency in the use of references style below, I will clean this up in the final version of this paper

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