(PRINTED FOR PRIVATE DISTRIBUTION.)

AN EXAMINATION OF SOME OF THE BASES OF CURRENT ECONOMIC THEORY.

VALEUR POUR VALEUR ÉGALE.

BY

SAMUEL B. CLARKE,
32 Nassau Street, New York City.

To Mr. Walker

With the Writer's Compliments.

c1909?

THE WEIBEZAHL PRINT 146 Broadway N. Y. Telephone 7320 Cort.

AN EXAMINATION OF SOME OF THE BASES OF CURRENT ECONOMIC THEORY.

Valeur Pour Valeur Égale.

The bargain; is it an equation? To make the question clear, it will be convenient, without attempting to define a unit of property, to assume that such a thing exists, and that, at any instant of time, every separable item of property embodies and is measured by a definite number of such units. For example, a coin may be conceived of as containing ten property units; suppose that the owner exchanges it for another like coin of ten units; evidently both parties to the bargain stand, as property owners, just where they did before; neither is made richer or poorer by the bargain. Is this the type of the bargains which are actually made in the usual course of industry and commerce? Or do those bargains generally, if not universally, resemble each other in this;—that the property which each trader gets by the bargain is not equal to the property which he gives, but is either more or less, so that he is in some degree either enriched or impoverished by the bargain itself?

That the question is a fair one and of importance from both the scientific and the practical standpoints may be apparent if we reflect a little on certain opinions which have considerable currency and credit. Mr. Cannan, in his history of the theories of production and distribution (second edition, Chap. 1, Sec. 7), quotes Quesnay for the proposition:—*"que le commerce n'est q'un échange de valeur pour valeur égale et que relativement à ces valeurs il n'y à ni perte ni gain* *entre les contractants"*; and says himself;—"*of course exchange in itself is no creation of wealth, and the things which are exchanged for each other are for the moment of equal value.*" Have these opinions ever been challenged? The present writer's impression is that they stand in the relation of axioms or necessary assumptions to the prevalent theories of value and wealth distribution. Yet, on their face they commingle two distinct ideas, the truth of one of which is, indeed, evident, but of the other far from being so. It is evident that bargains, being operative as transfers of property at a single instant of time, do not and cannot increase or diminish the quantity of property existing at that instant; but it is not evident that a bargain does not increase the property of one of the contracting parties and diminish that of the other. A transfer without consideration certainly does not increase or diminish the stock of existing property, but as certainly it makes the donor poorer and the donee richer. Why may it not be that an exchange of properties works similarly? Against what possibly may be the unconsciously sophisticated opinions of Quesnay and Cannan we may set the practical wisdom of two well known stories. Esau bartered his birthright to Jacob for a mess of pottage; manifestly the trade was unequal, Esau losing thereby and Jacob gaining in property. So, in Franklin's fable, the youth who traded his fortune of one hundred pounds for a horse, and the horse for a cow, and the cow for a sheep, and the sheep for a goose, and the goose for a chicken, and the chicken for a penny whistle, lost in property by each trade and the counter-bargainor gained. Are these cases peculiar and exceptional? They may be so in respect of the degree of variation from equality; but are they peculiar and exceptional in respect of the fact of variation, much or little? If bargains ordinarily were equal in respect of the properties transferred, why should not men who spend their lives in trading find themselves, as property owners, at the end substantially where they were at the beginning, no richer and no poorer? Because (as Cannan's comment on Quesnay suggests) of changes in the quantity of their property during the intervals between bargains? That is a conceivable answer; is it the true answer? Evidently some traders grow richer and richer and others poorer and poorer; is this due entirely to changes in the quantity of their property in the intervals between bargains or partly at least to bargains being themselves causes of gain to some and of loss to others? It may be difficult, or impossible, to separate bargain or instantaneous gains and losses from time gains and losses, but this in itself is not a sufficient reason for doubting the existence of instantaneous gains and losses; we believe that there are dark stars, although we are unable to see them.

It is not the writer's purpose, on this occasion, to attempt to deal judicially with the question which has been stated, but rather, by advocacy of inequality, to show that equality cannot properly be assumed, and that anybody who asserts it or relies on it ought first to prove it.

I. *Some typical bargains; bread for money; flour for money; wheat for money.* Let us begin the consideration of the question with an examination of the following series of ordinary transactions: the raising of wheat by a farmer, and the sale for money of so much of it as he does not want for food or seed by him to a miller; the sale of some of the same wheat, in the form of flour, for money by the miller to a baker; the sale of some of the same flour, in the form of a loaf of bread, for a dime by the baker to a consumer; and finally, the eating of the loaf by the consumer. The result of all these transactions is a loss of property; the loaf, once existing, has disappeared, like evaporated water; it is gone, and no other item of property has taken its place. The consumer, indeed, has had a momentary pleasure and has maintained for a few hours his life and health; but pleasure, health and life are not property. The consumer has lost the loaf; is his loss of property limited to the loaf? This depends upon whether the loaf, and the dime which the consumer gave to the baker for it, were equal as property. Immediately after the bargain, and as the result of it, was the consumer, then owning the loaf, richer or poorer than he was immediately before it, when he owned the dime? Was the baker richer or poorer? Or was there no change, as to either of them, in respect of the amount of property owned? There are at least two solid reasons for believing that the dime and the loaf were not equal; and that the baker gained in property by the sale at the expense of the consumer;—

First: In buying the loaf, as in eating it, the consumer's dominant motive was hunger, the satisfaction or gratification of which has as its necessary concomitant the loss of property. It was a matter of indifference to him whether the necessary and inevitable loss should begin and end with the eating, or, ending with the eating, should begin with the buying. On the other hand, the baker's dominant motive was the desire of enrichment; to increase his property (to make money, as the saying is), is what he was in the bakery business for. It is, therefore, obviously highly improbable that the minds of the consumer and the baker should have met upon a price for the bread which would not give the baker a property gain at the expense of the consumer.

Second: It is a fact of observation that immediately after the sale, or at any time after it, the consumer could not ordinarily sell the loaf again for a dime, while the baker could, if he wished it, readily buy another loaf with the dime. Seldom, if ever, can consumers sell again food, clothing, furniture, jewels, &c., &c., for a price equal to, or, indeed, much less than, the price they gave.

Like the baker, the miller was in business for the purpose of enrichment. In the sale of the flour the motive of both parties was, in a general sense, the same, namely;—enrichment. But there was an important difference between them. The miller must accomplish his purpose of enrichment by the sale of the flour, that being his final product; it was now or never with him. On the other hand, the proximate, efficient motive of the baker was to obtain material for bread; foreseeing his profitable sale of bread to the consumer, he could afford some loss of property in buying the flour to be used as material for bread. Probably, therefore, the sale of the flour resulted in an immediate property gain to the miller and an immediate property loss to the baker. The same difference existed in the case of the sale of wheat. The farmer must gain in property, if at all, by that very sale, or another like it, while the miller, foreseeing his profitable contract with the baker, could afford a loss in that bargain. Probably, therefore, the farmer gained and the miller lost.

How much was the gain and loss of property by these bargains? Without a standard of comparison and a unit of property and measurements of the specific quantities of the material things exchanged, we cannot answer this question with precision. But we can see some things. The consumer's loss in property in buying the loaf must have been large enough to give the baker a net gain on his two bargains, and the baker's loss must have been large enough to give the miller a net gain on his two bargains, and the miller's loss must have been large enough to give the farmer his gain; that is to say, the consumer's loss equalled the gains of the baker, the miller and the farmer; that is to say again, the consumer's loss must have been relatively quite large, and he may, indeed, have lost more property in buying the loaf than in eating it. On the other hand, in the case of each of the three bargains there were forces at work which tended to limit the gain and loss, although their operation stopped short of reducing the gain and loss to zero at the point of equality. The consumer who bought and ate the loaf contemplated, and was reconciled to, some loss of property, and was wholly indifferent whether the loss should come to him wholly in eating or partly in eating and partly in buying; but he was not indifferent to the total of his loss of property, and had this total appeared to him of more importance than complete satisfaction of his hunger, he could and would have put himself on short rations. This power of his tended to keep down the price which he would pay for the loaf, but it ceased wholly to operate at the point where, in his mind, full satisfaction of his hunger over-balanced the loss of property involved in paying the price. Again, bread is a perishable thing, and in order to accomplish the purpose of enrichment the baker must sell it within a rather short time after it is made or it will spoil on his hands. This tended to prevent him from setting the price too high, but it ceased to operate as a force on his mind before reducing the price to a point where he would make no gain in property, for otherwise he would not have continued in business. So also the competition of other bakers tended to prevent him from setting the price too high; but this force also ceased to operate before reducing the price to a point where there was no property gain to the baker in the sale of the loaf, for bakers generally are in business for the same thing, namely;—self-enrichment, and their competition must cease at a point which will enable this motive to be accomplished or else they, or some of them, must go out of business; and the fact that the baker in the supposed case was in business indicates that the competition had ceased to reduce the price before it reached a point where there was no property gain.

The three bargains which we have examined are widely typical. The industry of the civilized world which supplies us with the necessaries, comforts, conveniences and luxuries of life is organized in groups of men, and the organization is such that the finished product of one group becomes the material for the next group, and the finished product of that group the material for the following group, and so on, till material things are at last completely adapted, in form, composition and location, to human use, whereupon they become the property of consumers and are used. From the existence of this organization, and its continuance throughout a considerable period of time, we may infer that the motives and purposes of the men in each group, who are able to continue there, are in fact accomplished; for otherwise it would seem that the groups, and the whole organization, must necessarily break up. It seems, therefore, legitimate to infer, further, that what is true of these three bargains is true generally and to say that, as a rule, exchanges of property in the regular course of industry and commerce are not equal, but result in a loss of property (probably a great loss) to consumers, and a gain of property (probably a great gain) to producers.

What becomes of the gains of producers? By the word *producers,* as here used, must be understood only the comparatively few men who are the owners of intermediate and final products, and whose judgment and will, therefore, are efficient in determining the contracts governing the disposition of intermediate and final products. These men are themselves consumers, and, to the extent that they make bargains for consumption, they will, for the reasons stated, be losers. In this way they lose a part (probably a small part) of their gains. What becomes of the residue? In the processes of production it is necessary for producers to make a great variety of contracts; they must hire laborers, they must borrow money, they must buy tools and implements, they must rent land and buildings, &c. Unless these contracts were also ordinarily unequal, the riches of producers would doubtless increase with amazing rapidity. Just as the producer of the final product, looking forward to his profitable contract with the consumer, loses in the purchase of the material for the final product, so, doubtless, all his other contracts, and the like contracts of intermediate producers, with laborers, landlords and lenders, &c., are unequal, and most of producers' gains go to the reimbursement of losses incurred in this way. The laborers, the lenders and the landlords are consumers, and, so far as they make consumption bargains, they lose the gains which come to them from their contracts with producers. It is not, however, necessarily true or even probable that in this way the totality of producers' gains is offset by consumption losses. Between a gaining contract and a losing contract there is usually an opportunity for saving. The consumption desires of men are elastic, and, by limiting the gratification of them, it is possible to become permanently enriched through bargain gains, and many men doubtless avail themselves of this power of limitation. We may say, then, that producers' gains are largely offset by consumption losses, but that a considerable part of them is saved, and thereby some men are more or less permanently enriched.

II. *Elements of property; its utilities for the owner; standards of measurement; property power.* We may continue the consideration of the question by attempting somewhat greater definiteness of thought and words. By analyzing the complex idea of property so as to identify the entities or realities which are represented by its component ideas, we may be able to discern clearly what its utilities are, and then, by analyzing and classifying the desires to which those utilities minister, we may be able to find out whether traders use a single standard or diverse standards in trading, and what effect upon the measurements of bargains diversity may have.

Property, as the word is ordinarily used, usually, though not always, implies the existence of a specific material thing, which is adapted or adaptable to some human use, such as a horse, a hen, a parcel of land, a building, a coat, a bracelet, an axe, a billet of steel, a basket of wheat, a bale of cotton, &c., &c. From this point of view, property appears to be a material entity, and such is the common understanding of it. We impute to property a situs in space. We classify it as movable and immovable. We talk of the production, transportation and destruction of property. We say that we buy and sell lands, cattle, coal, &c. The price of a loaf of bread, the value of a ship, are common expressions. But all these are mere fashions of speaking, convenient, and, for many purposes, harmless ellipses, rather than accurate statements of fact. Professor Washburne, in his familiar idiom, used to say to his law students;—"You may think somebody owns land. No he don't, nuther. Nobody owns land. All that he owns, or can own, is an estate in land."

The word further imports the existence at the same time of two or more human beings standing in certain jural relations to each other in respect of some one or more of the material things which are adapted or adaptable to their use. If there were no human beings, or only one, there would be no property. Crusoe, alone on his island, finding a nest of hen's eggs, takes and eats them, without subjective hesitation or external hindrance or penalty. But a man among men, finding eggs, does not eat or take or disturb them. He knows that some other man owns the eggs and has the right to do with them as he pleases, and that his duty to that other man is not-to-interfere with this right. His sense of duty, and his fear of what the owner and other men may do to him, overpower his hunger and hold him in check. The thing that stops him is property, which, though invisible, intangible, non-existent in space, is ordinarily as effectual for the purpose as if it were a wall of granite. From this point of view property appears to be not a material but a psychic entity, consisting of the rights against other men which an individual man has in respect of a specific material thing, and of the correlative duties or debts which those other men owe him in respect of the same material thing. The right of the owner is to use the material thing more or less freely for a longer or shorter period of time, in accordance with his own desires, judgment and will, and to employ physical force to prevent interference by other men with such use by him of the thing, and the correlative duties or debts of other men to the owner are to abstain, severally and collectively, from any interference, and to help him with the force of their bodies, or otherwise, to prevent any one or more of them from interfering in such use of the thing.

Again, property, usually, though not always, also imports the idea that the owner is free, at his own will and pleasure, to substitute another man as owner in his place. This is the owner's right of alienation. He is at liberty to transfer to another man the material thing (or, speaking accurately, his rights in respect of the material thing,) without conditions, in the form of a gift, or upon any condition he chooses to impose, such as the transfer to himself of some other thing. He may also divide his rights in certain ways, and, keeping some of them himself, transfer the others; so that the full ownership of a material thing is often distributed among two or more men. The entity represented by this idea is a psychic entity, and the processes of transfer, though they may be facilitated and evidenced by material things and processes, are essentially psychic processes. Gifts and exchanges of property are events which do not occur in the world of space and matter, but in the world of mind.

Again, property also imports the idea of the existence, deep down in the feelings and opinions of men, of a certain concord and consent, giving rise to what are variously known as the jural or the inherent or the natural rights of men and also giving rise to powerful psychic forces, which control and guide economic activity in all its forms, at all times, from the beginning of production to the end of consumption. These forces cause men to respect the boundary lines between things appropriable and things unappropriable, and also the boundary lines between the fields of action within which each man is at liberty to follow his own feelings, judgment and will, and the fields within which he has no such liberty. They do this, partly and mainly by their direct influence on individual men, and partly through the instrumentality of civil government, one of whose functions is to ascertain exactly the true location of the boundary lines and to erect legal boundary walls thereon, and another of whose functions is to provide an overwhelming physical force operating at all times, by menace at least, both as a shield for the protection of the liberty of each man within his own fields, and as a sword for keeping him out of the fields of freedom of other men. Thus we arrive at another psychic element of property, the element of security.

Finally, the property concept usually, though not always, also involves the idea of a psychic force inherent in the owner and controllable by him, enabling him, or tending to enable him, to influence the desires, judgment and will of the owners of other property in the direction of transferring to him what they own, or a part of it, in consideration of his transferring to them, or one of them, what he owns, or a part of it. This force is an entity as real as those other psychic forces in a man which enable him to excite pity or love in other men, as real as the physical forces of gravity and electricity. The owner, by virtue of his ownership of a specific material thing, and of his right to transfer the ownership, has a power over other men which he would not otherwise have. For convenience we may name this force *property power.*

If this analysis does not appear to be correct on the mere statement of it, we may, perhaps, make it appear so by being more concrete in certain respects. The material things of the world which are adapted or adaptable to human use are divided into two great classes, namely;—those which are and those which are not legally appropriable by individual men. Human beings, the sun's light and heat, the air, the high seas, some portions of the land of the world, are examples of unappropriable things. Other portions of the land of the world, animals inferior to man, and the severable fruits and products of animals, land, sea and air, are examples of appropriable things. The reasons for this classification need not now be touched, but the fact that the classification exists is manifest. Let us compare one of the appropriable things with one of the unappropriable things. The strip of land along the sea between low and high water marks, sometimes known as the foreshore, is not legally appropriable, and is not property, but the like strip running inland from high water mark is legally appropriable, and is property. Regarded merely as material things, these two strips of land do not differ in any substantial way; they are both useful to man, they are of the same size, and one is no more scarce (or abundant) than the other. That which makes one of them property is the fact that some men have exclusive rights against other men in respect of it, and that which prevents the other from being property is the fact that no man has, or (without a change of law) can have, any exclusive rights against other men in respect of it. This contrast seems to show clearly that the essence of property is the psychic entity, exclusive right,—an idea which becomes still clearer when we think of those kinds of property which do not have relation to any specific material thing; e. g., money debts, public offices, some franchises, copyrights, patents for invention. Again, compare a parcel of the inland strip, which is owned in fee by somebody, with a like parcel of the foreshore, which is owned by nobody. In the one case the existence of the force which we have called property power is manifested, and in the other it is not manifested. The owner of the inland parcel, by offering to transfer his exclusive rights, can persuade some other man to transfer to himself some other thing which he may desire more than the land, but no man can obtain what another owns by offering to do, or doing, anything whatever in respect to the foreshore parcel. This comparison seems clearly to make it evident that property power does not, like gravity, electricity, chemical affinity, and other physical forces, inhere in, or emanate from, material things, but is a psychic force inherent in the personality of the owner, just as his power to excite pity or love in other men inheres in him. Again, compare the owner of the fee in a parcel of the inland strip with the lessee for a year, under an ordinary lease, of another like parcel of the inland strip. In the case of the fee owner the existence of property power is manifested; by sale or exchange he can obtain other property which he may desire more than the land. But the existence of property power is not manifested in the case of the lease owner; he cannot, by sale or exchange, obtain anything else which he may desire more than the leased land. The two cases do not differ at all, so far as the two parcels of land are concerned. They do not differ substantially so far as the existence of property in respect to each parcel of land is concerned; the lease owner has exclusive rights shorter in duration and narrower in scope than those of the fee owner, but quite as real; he is also subject to certain burdens which the fee owner is free from, such as the payment of rent; but such differences as there are do not account for the fact that the lease owner has no property power while the fee owner does have it, though they would be quite sufficient to account for the power of the fee owner being greater than the power of the lease owner, if, in the case of the latter, the power existed at all. What, then, is the difference between the two cases which may account for the fact that in one property power exists and in the other it does not exist? The only difference is that the fee owner's exclusive rights are alienable, while under an ordinary lease the lessee's exclusive rights are inalienable. Another example of the effect of alienability may be found in the fact that property in an army commission does not now give an army officer any property power, the commission now being inalienable, but that formerly it did give him property power, the commission then being alienable. Another good example is presented by the contrast between a life annuity granted by an insurance company and a life pension granted by the government; both are property, but the former is alienable and its owner has property power, while the latter is inalienable and the owner does not have property power. Again, by the law of New York, lands held in trust are inalienable; pending the trust, such lands give their owners no property power. Property power, like electricity, is a force which manifests its existence only under certain conditions and arrangements. It does not exist in the case of legally unappropriable material things, no matter how useful to man or how scarce or abundant they may be. It does not exist in respect of legally appropriable and appropriated material things unless the exclusive rights of the owner are alienable. We may believe, therefore, that alienable exclusive rights are some of the efficient and indispensable causes of its existence.

This analysis is far from being exhaustive, but, if it correctly classifies the elements of property, omitting none that is essential, it will serve the present purpose. Is any essential element omitted? Value? In the whole world of All-Being does there exist any entity or reality, other than property power, which can be denoted by this word, when used, as, for example, Quesnay uses it, in the sentence quoted at the beginning of this paper? Value in exchange? Does that phrase denote anything else than a measure, by some standard, of property power? Value in use? That is merely a measure, by some standard, of the ultility of a material thing for any purpose to which the material thing, as such, is adapted,—is it not?[1]

---

[1] That economists are in error in regarding scarcity as one of the efficient causes of the existence of property power or value, may further be made to appear as follows:—Among the most scarce of useful things are the masterpieces of Italian art. Suppose that the Italian Government were to extend the policy which now prohibits the exportation of such masterpieces to the point of forbidding the owners to sell or transfer them to any one; evidently the owners would no longer have any property power by virtue of their ownership of the masterpieces or, what is the same thing in meaning, the masterpieces would no longer have value. On the other hand, one of the most abundant of useful things is the air. It would be a simple matter to draft a statute which, if enacted and enforced, would result in the alienable appropriation of the air. Were this done, the owners of air would certainly have property power or, what is the same thing in meaning, the air

With this analysis in mind, we may see that, for the owner,[1] property has two utilities which are as wide apart as the color and the weight of a material thing, and which may, for convenience, be distinguished as consumption utility

---

would have value. Relative abundance and scarcity are causes of the variability of property power or value, but not of the existence of property power or value.

[1]For all-of-us, for mankind, property has other utilities which would have to be emphasized if the question were on the economic and ethical justification of property. The supposed principle of property—*to the producer the product of right belongs*—which is implicitly assumed by the socialist, Karl Marx, and by many individualist economists, and which is expressly affirmed by J. S. Mill, in the second book of his *Principles of Political Economy,* and by Henry George in *Progress and Poverty,* and by Professor J. B. Clark, in the lay-out chapter of his *Distribution of Wealth,* appears to the writer to be the antipodes of the truth. Speaking practically; this pretended principle is not a workable determinant of the kind of disputes and quarrels which actually arise among men. Speaking ethically; it cannot be co-ordinated with several of the recognized principles of justice, and, in particular, it flatly denies the principle of liberty and the sub-principle of freedom of contract. Speaking economically; if there is to be economic thrift property must precede, not follow, production; witness what happens (1) at the gold diggings till the place where each man is to work is first marked out and made secure to him; (2) at the oyster beds till the stakes are set; (3) in the matter of squatter settlements on the public lands; and (4), above all, witness the bitter lifelong quarrels which often arise between the sons and daughters of the same father and mother who have been left tenants-in-common of land and have tried too long to get on without a partition. The mentally conceivable, but practically impossible, alternative to private property is a military socialistic organization which, by physical force, compels the individual man to work under the orders of an officer and to abide the decision of an officer as to what his fair share of produce is. This would deprive everybody of that measure of liberty to which all of us, old and young, rich and poor, high and low, have been so accustomed from earliest infancy that it is now a part of our subconscious and instinctive nature, and all or most of us stand ready to fight to the death for it as our natural right and as our moral right. But the conception of private property as the means of rescuing mankind from a private warfare with which no government otherwise could cope, and as the means of giving

and transfer utility. Consumption utility puts the owner, so to speak, into the position of Crusoe; it opens for him a psychic wall and enfranchises him with respect to the utilities of the material thing which is the subject of his property; it enables him to gratify such desires as the material thing is adapted to gratify and at the same time to gratify the very different desire of being free from pain of conscience and from suffering and fear of suffering at the hands of other men; it is complex, all items of property having in common the utility of enfranchisement to a greater or less degree, and each having distinctive and peculiar material utilities; it can be taken advantage of at any time, and from time to time so long as the owner's title and the material thing continue to co-exist. On the other hand, transfer utility enables the owner in the alternative either, by gift, to gratify his altruistic desires for the welfare of family, friends, fellow-countrymen, mankind, or, by exchange, to gratify his desire for some other item of property which he wants either for its consumption utility or for its transfer utility; it can be taken advantage of only in one way and at a single instant of time, namely, by an act, and at the time, of transfer. In short, the two utilities minister to radically different human desires and they are inconsistent, in the sense that it is impossible for the owner to take advantage of both at the same time.

It thus appears that there are two entirely distinct standards for measuring a bargain, and that one or the other is likely to be used by a trader

to all men a reasonable measure of liberty, a reasonable measure of contract bondage, a reasonable measure of equality, and a reasonable measure of economic efficiency, and as the means of preserving for mankind many useful natural resources, such, for example, as the fur seal, is not germane to the question now under consideration.

according to the desire, or set of desires, which predominates in determining his volition to trade. If he uses the standard of consumption utility, he must gain, or think that he will gain, in the matter of consumption utility; he will not trade if he thinks that, in that respect, he will be either worse off or merely equally well off. So, if he uses the standard of transfer utility, he must gain, or think that he will gain, in that respect; he will not trade if he thinks that, in the matter of transfer utility, he will be worse off, or merely equally well off. If one of the parties to a bargain uses the consumption standard, and the other party uses the transfer standard, each gains, or thinks he gains, by his own standard; this is the case of the bargains made between intermediate producers in the regular course of industry, and particularly is it the case of the bargains made between final producers and consumers. If both parties to a bargain use the standard of transfer utility, each thinks he gains in that respect, and in all probability the judgment of one is right and of the other wrong; this is the usual case in speculative bargains on the market and a frequent case in investment bargains, each party thinking that he is getting the better of the bargain, one actually doing so, and the other in fact getting the worse of it. If both parties to a bargain use the consumption standard, each thinks he gains in respect of the kind of material utility which he wants, and it is a matter of mere chance how the bargain results in respect of transfer utility; for example, in a barter of food for clothes, one trader gives up food which he does not want to eat for clothes which he does want to wear, and the other trader gives up clothes which he does not want to wear for food which he does want to eat, and both gain in consumption utility; that is to say, by this standard each is better off as the result of the bargain, not worse off, or merely equally well off, and by the transfer standard one is probably better off and the other worse off.

Utilities are merely convenient abstractions of the qualities or attributes of entities or things. What are the elements of property, or combinations of elements, of which consumption utility and transfer utility are the attributes? It is evident that the alienability of the exclusive rights of the owner of property adds nothing to the consumption utility of the property. We may, therefore, when thinking of consumption utility, exclude the idea of alienability. Such exclusion necessarily carries with it the idea of property power. The useful material thing, the free and exclusive right, and the security of the right, are plainly essential to consumption utility. We may say, therefore, that consumption utility is the attribute of property conceived of as the free and secure exclusive right to the use of a material thing for all purposes to which the material thing, as such, is adapted. All items of property may be deemed equal in respect of freedom and security, and therefore (for the purpose of getting a measure) we may eliminate those ideas and say that a measure by a proper standard of the availability of the material thing for any one use to which the material thing, as such, is adapted, is a proper measure (or the value) of the property for that one purpose. Property thus, in respect of its consumption utility, has as many values as the material thing which is the subject of the property has uses. Transfer utility plainly requires alienability to be added to the elements which go to make up consumption utility. The conception includes all the material uses and values of property and also the security and enfranchisement elements of consumption utility, but deals with the whole in its relation to purposes which cannot be served by the material thing alone, namely;—the availability of the whole for the purpose of gratifying the desires which can be gratified by a gift of the property or by an exchange of it for other property. Now, property power being the result or effect (analogous to an induced current of electricity) of all the other elements of property, it may be taken as the representative of those other elements, and, therefore, we may conceive of transfer utility as the attribute of property power; hence, a measurement of property power by a proper standard is the value of the property for the purpose of gift or exchange.

The main question under consideration may now be restated thus;—Is the result of a bargain an increase or diminution of each trader's property power, or is his property power after the bargain just equal in quantity to what it was before the bargain? From the foregoing analyses we may infer that the true answer to the question is as follows;—

First: Whenever both parties to a bargain use the standard of consumption utility it will be a mere matter of chance whether the bargain, when remeasured by the standard of transfer utility, is seen to have resulted in equality or inequality. The chances are infinitely great that the bargain will have been struck at one of the innumerable points of inequality, so that one party will have gained and the other will have lost in property power, rather than at the single point of equality.

Second: When both parties use the transfer standard, one will err in judgment and lose in property power and the other will be right in judgment and gain in property power, except in the highly improbable contingency of a joint error, in which case there would be neither gain nor loss in property power by either party, i.e., there would be equality.

Third: If one party uses the consumption standard and the other the transfer standard, the latter will gain in property power unless he makes a mistake of judgment, in which case the result as to him will be what it plainly will be with respect to the other party, a mere matter of chance, with the chances in favor of inequality.

III. *The Margin of Chance.* It is evident that unless traders measure their bargains accurately, it is a matter of chance whether the bargains are equal or unequal, with the chances in favor of inequality, and that the more inaccurate the measurements are, the greater the chance that the departure from equality will be substantial. From this basis we may argue as follows;—

First: The measurement of a bargain is a reasoning process. The human reasoning faculty cannot work unless, at some point or other, it is footed and fulcrumed on a creed which the reason is incompetent to prove but must take for granted. One article of the creed is that the material universe is governed by natural laws, so that, if we can but discover any such law, we shall be able to gain thereby a clear, exact and definite knowledge of so much of the material universe as the law applies to. Hence, if we look at property power in the way that, under the name of value, many economists do look at it, namely;— as a quality or attribute of material things, or as a force inherent in material things, we do not despair of being able, by search, to find out the natural law that governs it, and by help of the law, to measure it with great precision, just as we measure the weight of material things with great precision. But if, by analysis and study, we have become satisfied, as is now assumed, that property power or value is a psychic force inherent in the personality of the owner of property, we find ourselves face to face with another article of the creed. Whatever philosophic or contemplative doubts, of minds adrift and compassless, there may be, we nevertheless believe, and, by our conduct, universally show that we believe, in freedom of the will. The volitions which result in bargains, or in any form of economic or other activity, are, to an undefined extent, outside the realm of natural law. We may take it, therefore, that no measure of property power or value which is made, or can be made, by the judgment of a trader, or of an economist, or of anybody else, is accurate in the sense in which our measurements of the volume and density of material things, or of the intensity of physical forces, is accurate. Those who assert that all business is gambling merely misconceive the essence of gambling; they are right in supposing that all business involves the taking of risks. Some margin for the play of chance there is in all trading.[1]

---

[1] The first sentence of Professor J. B. Clark's *Essentials of Economic Theory* is;—"The creation and the use of wealth are everywhere governed by natural laws, and these, as discovered and stated, constitute the science of economics." This sentence is a perfect illustration of the extreme difficulty, and practical impossibility, of so using words as to express but one definite meaning. The sentence may mean that the economic activity of men is limited by natural laws, as the activity of a horse out at grass is limited by the fence of his pasture; in this sense the sentence is, of course, true. But it may mean that economic activity has no free play at all; in this sense does anybody believe it to be true? Professor Clark makes a valid and beautiful discrimination between Capital goods, material things the function of which is not to minister directly to consumers'

Second: Traders, in closing bargains, are nearly always under the influence of some strong feeling, need or desire. Such influences inevitably bias the judgment and tend to make it inaccurate to a substantial degree.

Third: The standard commonly used in bargains for measuring value or property power is gold coin. This standard is not an accurate standard, like the yard stick or the pound weight of iron. It is a variable standard, like the compass, but, unlike the compass, it does not vary according to law. The property power incident to the ownership of coin varies according to the

---

wants, but to help in making things which do this, and Capital itself, which is a permanent fund, or continuous stream or procession, of such material things. He likens Capital to a waterfall, and Capital goods to the ever changing drops of water in the waterfall. This discrimination easily leads to another. From the economic point of view the abiding thing in the waterfall is the power, the water power; so, in Capital, the abiding thing is the power, the property power. Here we must become cautious. The water power is entirely, and always, subject to natural laws; but is the property power always, and entirely, subject to natural laws? Or is there not, within the limits of natural laws, a considerable freedom of play? Should men, working and trading, be thought of as ruled by instinct, like bees and ants? Or should they be thought of as conscious, free and erring workers and traders?

Professor Clark, at page 18 of the *Essentials,* gives a questionable imaginary example from supposed primitive life of how it is that men in modern industry, who spend their time in making and repairing tools and other Capital goods, get their food without waiting for it; and, at the same time, he gives, unconsciously, an excellent illustration of the domination over his mind of the bee-and-ant idea. He says;—"Five men may do nothing but fish, while a sixth keeps their stock of canoes intact, by repairing old ones left on the shore and making new ones to replace such as are beyond repairing. Fishing and boat building may go on simultaneously, and all the men may go share and share in each day's catch. *This is a type of what goes on in modern industry,* where a complex stock of Capital goods always exists and is kept intact by the action of a class of persons *who share the returns that come from using the stock.* None of these persons has to wait for food, although some of them devote themselves exclusively to the production of tools."

mere moods of people to an astonishing degree. During periods of expanding credit, when everybody is hopeful, optimistic, buoyant and trustful, substitutes for gold coin, such as checks and bills of exchange, and credit entries in bankers' books of account, are readily accepted and used in place of coin, and the result is similar to what it would be if the stock of gold were rapidly and very largely increased, that is to say;— the property power of the owners of coin becomes largely less, and, at the same time, the property power of the owners of other kinds of property, relatively to property in gold, becomes markedly increased in amount. On the other hand, when the feelings of people change, and they become timid, depressed, pessimistic, suspicious, the substitutes for coin are refused, with the result that the property power incident to the ownership of coin increases with great rapidity, and the property power incident to the ownership of other kinds of property, relatively to gold, decreases, just as would be the case if the currency in circulation were abruptly reduced by a large fraction. The true reason for considering gold the best standard of value is not because it is a good standard, but

---

What makes those fishers and that boat tinker act in that way? Is it instinct? Is it not rather a conscious prearrangement and agreement upon which each of them relies and which, therefore, becomes the principle of their organization and the cause why the boat tinker and each fisher gets a share of each day's catch of fish? If the answer be yes, then is it true that the example is a type of what goes on in modern industry? Is the cause why the modern tool maker gets food without waiting a sharing in the returns that come from using the tools? Is there ordinarily, in modern industry, any conscious prearrangement or agreement for shares of the produce? Is there not an entirely different prearrangement which is the real cause why tool makers get their daily food? *Shares of produce!* That is the conception of which is writer is suspicious, and against which he is tempted to prefer a charge of high treason to the cause of truth.

because it is less bad than any other. Any claim of substantial accuracy of measurement, when such a standard is used, seems plainly untenable.

Fourth: One way in which the gold standard of measurement is commonly used is the treatment of the quotations of actual sales of different parcels of homogeneous properties (such as cotton, wheat, shares of corporate stock, &c., &c.) as an index or gauge of the amount of property power or value which the ownership of a unit of any such homogeneous properties gives its owner at any instant of time. This subject has received great attention from economists, from the point of view of property power or value being an attribute of material things, or a force inherent in material things, and they believe that they have discovered a series of natural laws governing the matter, and these laws they lay down with almost mathematical precision and with a hypnotizing confidence of expression. Let us examine one of these supposed natural laws—the so-called first law of the market. This law is thus stated (except as to the italics) by Professor Carver (*Distribution of Wealth,* page 5);—

> "To be sure, if the units are all alike, or so nearly alike as to serve the buyer's purpose equally well, they will *all have the same price at the same time and place.* Obviously, no buyer would pay more for one unit than he would have to pay for another *if he knew* that the cheaper unit would serve his purpose just as well. This is what Marshall has called the first law of the market. Since *all units* of such a commodity have the same price, and *since the price of any is a gauge of the price of every other,* it is customary to speak of the price of the commodity without naming its units."

There is an implication here that a trader's conduct in closing a bargain is guided by knowledge which it is impossible for him to have. Bargains take effect at an instant of time (literally a mathematical point of time), but it takes a period of time of appreciable duration to negotiate and close them. If the traders are brokers with full discretionary authority, and the trading is done on the floor of the most perfectly organized exchange, two or three seconds, at least, are required for the negotiation; and if the agents, not having full authority, must communicate with their principals and get fresh instructions, by leaving the floor of the exchange and going outside to talk with the principals, or by telephoning, or telegraphing, or writing to them, or if the transaction is closed between the principals themselves off the floor of the exchange, a considerably longer time is required. During the period of negotiation, some time before its close, the influence of competition comes to an abrupt end; the attention of the two traders, parties to a bargain, is intensely concentrated on what they are doing; for that moment they are blind and deaf to everything else that is then going on in the world. When buyer and seller in group number one are closing a bargain, the buyer cannot know what the seller in group number two, or the seller in group number three, or the seller in any other group, is at that moment willing to do. Each dealer must decide and act on his knowledge of the past, not on any knowledge which it is possible for him to have of the present, and there is no ground for believing that the most complete knowledge of the past will bring the minds of different traders to the same point. In any market whose organization permits more than one sale at a time there are as many possible prices at the same time for different units of homogeneous properties as there are possible groups of dealers, each group containing one buyer and one seller. What took place in the New York Stock Exchange at the moment of opening business on Tuesday, January 5, 1909, as narrated in the following report of it in the New York Sun of January 6, 1909, is only what, antecedently, might have been expected;—

> "It was a foregone conclusion after the break in Consolidated Gas on Monday that the stock should be the centre of interest at the opening of yesterday's market, but it is doubtful if many persons were prepared for what actually happened. For several minutes before business opened the Gas post was surrounded by a large crowd of brokers, nearly all of whom held selling orders, each anxious to execute his commission as soon as possible in the fear that the price would not long remain at one figure and that even a second or two of hesitation might mean considerable loss. This eager desire to be first resulted in the making of a number of sales simultaneously at prices running from 140 to 138½, a decline over night of from a point to 2½ points, the amount of stock represented in these simultaneous transactions reaching the aggregate of 3,500 shares. The highest figure at the opening was not paid again all day and even after further heavy declines the stock showed little or no rallying power."

It is true that market quotations furnish a basis for some conduct in dealing which can properly be regarded as the taking of a reasonable risk, rather than a gambling risk; but, what conduct? If you mean to buy or sell only a few units, say one or two hundred shares of stock, you will incur some risk, but doubtless not an unreasonable risk, if, on the basis of the latest quotations, you give an order to your broker to buy or sell "at the market." But it would be wild folly for you to give an order for a hundred thousand shares upon the assumption that the statement of the first law of the market that *the price of any unit is a gauge of the price of every other,* is true. It is evident that the weight of a unit of a homogeneous mass is equal to the weight of each and every other unit, and that a summation of the weights of all the units is the weight of the mass; but it is necessary to hesitate in assuming that the property power incident to the ownership of any one unit of a homogeneous commodity is, at any instant, equal to the property power which the ownership of each and every other unit gives to its owner, and that a summation of the several property powers is the property power of the entire homogeneous commodity. It is certain that a unit of the homogeneous commodity will bring a different price, if it is the only unit offered, from what it will bring if many units, or all the units, are offered at the same time, and it seems quite clear that the price for which one dealer, or a few dealers, sell their units at any instant cannot be an accurate measure of the property power at that instant either of the units then sold, or of any of the units not then sold, for the judgment of the owners of other units, who do not then sell because they think the price too low, and of other buyers, who do not then buy because they think the price too high, seems to be quite as important as the judgment of those who then actually sell their units. Furthermore, the judgment of all owners willing to sell at what they think the right price, and of all buyers willing to buy at what they think the right price, may be at fault on account of the existence of facts which none of them, except a few gamblers in ambush, know.

You can know the total amount of your commodity in existence, say the authorized and issued stock of a corporation, and this knowledge is of some help in forming a judgment, but it is by no means certain to lead to a true and accurate judgment. Unless you yourself are the manager of a pool which has secretly locked up twenty, forty, ninety per cent. of the amount of your commodity actually existing, you are not likely to know what quantity of the existing commodity is free in the market at any time; and if you could know that, you would still be far from having a certain basis for judgment. There is always a possible psychic excess of supply, of indefinite and unknowable amount, over the known amount of what actually exists. This excess is a closely guarded secret in the back of the heads of manipulators and gamblers, who may, at any time, bring it out and sprinkle or flood the market with it by making short sales. Again, you are little likely to know, or to be able to gauge, the manipulative processes of matched and carefully adjusted purchases and sales by which it is easy for great manipulators and gamblers to give an entirely false appearance to market quotations. The trial of Morse, for breach of the federal banking law, incidentally showed that, by these processes, the price of ice stock was, within a few months, jacked up from about twenty-seven dollars a share to about ninety dollars a share. As matters stand, nobody has any assurance that there are so many as one commodiy in any market the quotations of which are free from the taint of these processes; just as it would be easy for a few counterfeiters, if not interfered with, to corrupt the currency, so, under existing conditions, it is easy for a few gamblers to corrupt the market standard of value.

The most important thing to be known and emphasized about markets is that there is a good deal which cannot be known. The next most important thing is that there is a good deal, not now known, which could, by legislation, if not otherwise, become known, and which, if known, would help to save investors from cruelly biting losses.

Suppose that honest men, awaking from their sleep, were to cause their influence to prevail with legislators over the influence of gamblers; suppose that a bill for the protection of the market standard of value by the severe penalization of fraudulent practices without doing damage to legitimate trade, were to be drawn, as easily it could be drawn;[1] suppose such a bill to be enacted, and then enforced by prosecuting officers who know their business, as the prosecutor of Morse knew his business; suppose all the reeking fraud with which many people believe a few gamblers have saturated the markets of the day were thus to be purged away; suppose that market quotations were to become in fact what the theories of economists assume them to be, namely;—a record of the *bona fide* judgments as to the value of commodities of men honestly competing for their several interests; suppose all these things to be done, what then? We should have a much better standard for measuring property

[1] If the intent which a jury must find were defined as *intent to corrupt and debase the market standard of value,* a dealer who should make an occasional short sale, or should make an occasional purchase and follow it by a prompt resale, would be in no more danger than everybody now is in passing an occasional counterfeit coin. Before a jury would convict it would have to be satisfied, by many facts and circumstances, as the jury in the Morse case was satisfied, that the purpose was to cause the published quotations of prices to become a trap for investors. On the other hand, a statute defining the intent in this way would be a whip of scorpions with which prosecutors, like Mr. Stimson, could drive gambling money changers out of the

power or value than we have now; but, at its best, the market standard would still be, and forever must be, very far indeed from having the accuracy of our measures of weight and spacial dimensions; there will always be a wide margin for the play of chance, and within that margin the trader of brains, of knowledge, of experience, and of expertness will have a marked advantage over the stupid, ignorant, inexperienced and inexpert trader.

Fifth: With the first law of the market economists use other bases for their theories of prices and their determination of values which, like the first law, are at least so far unsound as to make the theories useless for the solution of the question now under consideration. One such is the idea that, besides being the measure of value, money is only, and merely, a medium of exchange, so that a series of money transactions can, without error, be treated as indirect barters of material things. From this footing a step is made to the idea that laws of value and price can be arrived at by confining attention to the instinctive needs and demands for pleasure of the human body, and by studying the relation thereto of material things. It is observed that the bodily needs and desires, though recurrent, are quickly satiable. From this narrow induction springs a law of the diminishing utility of material things, and a curious and wonderful superstructure of unconvincing *a priori* reasoning as to their exchange values. But the utility of property, as dis-

---

markets, and keep them out. The market standard is now a recognized measure of damages in the courts, and it is also frequently referred to in statutes for various purposes. For example, in Section 547 of the New York Penal Code, market value is made the test for discriminating between the various degrees of larceny.

tinguished from the utility of material things, is ignored, and the insatiability of the desires which property, as such, ministers to, is ignored. The desire of property or of enrichment is conceived of by economists as a desire for things-in-general, that is, for material things-in-general, that is, for material things, and therefore, (they seem to think) only material things, and their utilities in ministering to bodily needs and desires, call for special consideration and study.

What are the ignored desires which property, as such, ministers to? Among them are liberty of many kinds, present assurance against the tyranny of future bodily needs, influence good or bad over other men, the permanent welfare of wife and child, the great happiness of making others happy. Are these desires satiable, as hunger is satiable? Do they have no influence on values and prices? Is there any law for exactly measuring their influence? Is it, indeed, the same thing for the baker to sell bread for money, part of which he is at liberty, if he pleases, to save for the gratification of these desires and part use for the purchase of butcher's meat, as it would be for him to barter the bread directly for meat, which he could do nothing with except presently eat it? Surely money is not a mere medium of exchange. It is property, and, as such, it is specially adapted to the gratification of a most important set of human desires which cannot be gratified by other forms of property, except to the extent that they can first be converted into money.

Such is the case for the inequality of bargains, as the writer sees that case. There are now known various species of time gains in property power or value; such as those that result from the application of one's own native and purchased labor and capital to the adaptation of material things for use; such as those that come to a land-owner as the result of the expenditure of his neighbors' labor and capital; and such as those that come to the owner of gold as the result of the fluctuating moods of men. Will not somebody who knows come forward and tell us what reasons there are for believing that there is no genus of instantaneous gains and correlative losses for the eye of economic science to study?

In conclusion, the writer may be pardoned for adding a short explanation of what appears to him to be the vital theoretic importance of a correct solution of the question which has here, one-sidedly, been discussed. A fundamental conception of economics, so far as that science attempts to understand and explain the activity of men in getting their living under the existing regime of civil government, private property and ordered liberty, may be indicated by the phrases, *first, production — then, distribution of produce among the human agents in production — then, consumption.* So, loving boys, with fallow passions and souls unplowed, sometimes go out in a boat on the water to catch flounders; they fill the boat, row to shore, and divide the fish into shares which may be equal or unequal as their heavenly harmony of heart moves them; then each carries his share home and eats it, or deals otherwise with it as he pleases; for lovers like these no government, no law, no property, and no need of any;— an idyllic dream of anarchy![1] From this root

[1] It is interesting to think that all the mighty influence of this false sequence of ideas, during the last sixty years, may have had its origin in the dream of a generous and brilliant, but inexperienced boy. J. S. Mill appears to have laid his economic foundations, under the guidance of his unwise, Benthamite father, when between thirteen and sixteen years of age; see Cannan, *History of the Theories of Production and Distribu-*

sprouts the notion that the requisites of production are, as some say, land and labor, or, as others say, land, labor and capital, or as others say, capital, labor and enterprizing. Another offshoot from the same root is the idea that there is a primary distribution of produce by natural law into such categories as,— Rent, the share of land-owners; Wages, the share of laborers; Interest, the share of capitalists; and Profits, the share of entrepreneurs; and that such primary distribution is followed by a further distribution of rent among individual land-owners, of wages among individual laborers, of interest among individual capitalists, and of profits among individual entrepreneurs. A very large part indeed of theoretic economics is devoted to these and similar categories and to the elaboration and formulation of the supposed natural laws which apply to them. Now, to anybody who will open his eyes and see for himself, the fact is manifest that land, labor, capital and enterprizing are requisites of production only in the material or physical sense, that is to say, in the same sense in which many unappropriable things (such as the air, the sun's light and heat, the forces of gravity, chemical affinity and vitality,) are requisites of production. In quite a different sense there is, in the existing regime, another requisite of production, which in this relation is seldom emphasized by economic theorists. That requisite is property; you must own before you can produce, just as you must own before you can eat. So, also, it is manifest that the title to produce vests in the owners of the land, the buildings, the tools, the materials and the labor

---

tion, Second Edition, pages 388-390. It does not seem ever to have occurred to Mill to consider whether the relations of men to the material world can efficiently be organized unless their relations *inter sese* are first in some way adjusted and established with a considerable degree of firmness.

which are used in producing it, and that those owners are, not the laborer, but the employer-producer who has bought the labor, not the landlord, but the tenant-producer who has bought the use of the land, not the capitalist who lends capital, but the borrower-producer who has bought the use of it; and that whatever distribution there is among producers (using that word in the limited sense that has been explained,) is determined by their contracts, and not at all by what they have done as producing agents; in short, there is ordinarily, in the existing regime, no distribution of produce *qua* produce among the human agents in production. Produce, as it comes into being, is merged into the general mass of property, and, as a part of the general mass, is distributed, without any intermediate classification, directly among individual men, including those who are and those who are not agents in production, by gift, by exchange, and by direct operation of governmental law. Outside of accounting rooms and the closets of scholars there is (with some minor and insignificant exceptions) no other distribution than this. Hence, it is not possible that those parts of economic theory which have been referred to can be a true explanation of the existing regime, unless what the theory supposes to be done is equivalent to what actually is done, and, inasmuch as the only instrumentality in sight for working out equivalency is the bargain, there can be no equivalency unless bargains are equal. It seems, therefore, that if bargains are unequal, the bird's-eye view or root idea or fundamental conception of the branch of economic theory which is concerned with the true understanding and explanation of the existing regime is wrong and must be changed to something else, say, something like this, namely;—

Preconception.

A state of general economic unthrift; first, anarchy; then, clashing interests and opinions, bitterness of heart, quarrels, homicides, disorder, war.

Conception of Existing Regime.

A state of mingled economic extreme thrift, moderate thrift, and extreme unthrift; first, civil government, private property, ordered liberty; then, peace; then, simultaneously, on the one hand distribution of property, and, on the other hand, production and consumption of material things.

Postconception.

A state of general economic thrift; problems for men of science who shall have first truly explained the existing regime;—What are the causes of the extreme thrift and the extreme unthrift of the existing regime? Is a false location of the legal boundary walls of property and liberty one of the causes? Is fraudulent manipulation of markets one of the causes? By what modification or new combination and adjustment of the primal forces of the existing regime can general thrift be promoted? First, what? Then, what?

In this view property stands at the front of the existing regime, a first cause, a principal force, in the organization and direction of the economic activity of men; in the view now prevelant among economic theorists it stands inconspicuously in the background, an effect or result of economic activity. The error in the prevalent view, if error there be, is of the mind-fettering kind such as frequently has blocked for a long time the advance of science. It resembles the error which once astronomers made in assuming that the earth is stationary and that the sun moves over it.

SAMUEL B. CLARKE.

New York City, June 1, 1909.