MR. KEYNES' THEORY OF MONEY

1. " THIS book . . . has occupied me for several years . . . during which my ideas have been developing and changing, with the result that its parts are not all entirely harmonious with one another." It is this and the following sentences from Mr. Keynes' preface to his *Treatise on Money* which embolden me to try to set in order the difficulties which I feel about some parts of the fundamental apparatus employed in that work, in the hope that my criticisms may throw a little more light on what remains a field of appalling intellectual difficulty, and even perhaps assist the author himself towards giving to his fertile and penetrating ideas that harmonious synthesis of which he seems conscious that they still stand in need. What follows, therefore, is in no sense a review of this many-sided work as a whole; it is concerned only with the fundamental argument developed mainly in Books III and IV, and only with those parts of that argument which have reference to a closed system.

2. My first difficulty is to be sure exactly how much Mr. Keynes claims for the " fundamental equations " which are the main instrument of his analysis. Sometimes, as in Vol. I. pp. 138 and 222,[1] he seems merely to urge that while, equally with the old quantity equations, they are formally mere truisms, they are better designed than the latter for elucidating the causal processes at work. But on other occasions he makes the more ambitious claim that they exhibit the operation of forces which can by no possibility be revealed by the use of the older methods, so that his methods have the merit not merely of being neater or more instructive, but of leading us to a right result, while the older methods would have led us to a wrong one. Thus on p. 147 we are told that it is even conceivable that the cash deposits, the savings deposits, the velocities of circulation, the volume of monetary transactions and the volume of output may remain the same, and yet that the price-level of output may alter. This, it is admitted, would be an extreme case; but even in ordinary cases " the degrees of change in the quantity of money, the

[1] To save unbearable prolixity, I must take leave to assume that the reader studies this article with Mr. Keynes' volume close at hand, and is familiar with its terminology. The page references are to Vol. I except where otherwise stated.

velocities of circulation, and the volume of output will not be related in any definite or predictable [1] ratio to the degree of change in the price-level of output." The superseded equations are thus suddenly degraded from the rank of truisms to the rank of untruths.

The same *motif* recurs in the prelude and the epilogue to the valuable statistical discussion which goes to make up Book V. In the former we are bidden to distinguish (II. 4–6) between "monetary elements" and "investment elements" in the left-hand side of an equation whose right-hand side is the total value of output. In the latter (II. 89) we are given an index intended to represent the variability of the "turnover of the industrial circulation," that is, of the total quantity of money expended annually upon the preparation and purchase of output. Dividing this index by an index of output, we get a price-level; and we are asked to believe that the divergence of the actually recorded price-level of output [2] from this theoretical price-level is a measure of the potency of forces, connected with the relation between savings and investment, whose presence the concepts of quantity of money and velocity of circulation, combined into the concept of "turnover of industrial circulation," are inherently impotent to reveal.

My grounds for believing this assertion to be baseless, and the alleged dichotomy between "monetary" and "investment" elements to have no reality,[3] will appear more clearly when I come to consider Mr. Keynes' second fundamental equation. Meanwhile, I am only indulging in a preliminary appeal to him to make clear from the outset whether, in his dealings with "velocity" equations, he conceives himself to be infusing life into truisms or refuting untruths.

3. I have not much to say about Mr. Keynes' first equation—that which deals with the price-level of consumption-goods. He employs, it will be remembered, the following concepts and

[1] The collocation of these two words seems to me to create prejudice. There are many concepts in economics which are perfectly *definite*, but which cannot, in the present stage of our knowledge, be utilised for the purpose of prediction.

[2] As a measure of this, Mr. Keynes, for reasons which seem inadequate, uses the wholesale index. He desires to exclude services, which are excluded from his index of output, and therefore rejects his own "consumption-index," which indeed, as the reader can see by testing for himself, gives a plainly ridiculous result. But even so, surely the retail price-index would have been a better approximation.

[3] See, for another curious illustration of this dichotomy, II. 79–80, where the tendency of traders, in time of boom, to economise in their holdings of cash in order to expand their investment in working capital is treated as a "monetary element" and contrasted with influences on the side of investment.

symbols. E = the total of money earnings or income; S = the part of E not spent on consumption-goods; O = output, made up of R, available output or consumption-goods, and C, " investment " or additions to capital; I' = the part of income earned by the production of C, *i.e.* $E \cdot \frac{C}{O}$; P = the price-level of R. Then starting from the proposition $E - S = PR$ (i), we reach by easy algebra the result $P = \frac{E}{O} + \frac{I' - S}{R}$ (ii).

Equation (i) is of the Fisherine type, *i.e.* it equates the flow of money devoted to the purchase of a certain type of goods during a period with the flow of goods of that type becoming available for purchase. And equation (ii) derived from it is well adapted to show the effect of changes in the distribution of a given income between saving and expenditure on consumption-goods. I am not sure that it is so well adapted to show the effect of the kinds of changes in which, in a study of short-period fluctuations, we are most interested. Thus, suppose a Government or banking authority creates new money by way of doles, it is clear that the stream of expenditure devoted to consumption-goods will be increased, while " income " in Mr. Keynes' sense (*i.e.* sums earned by the production of output) is unaffected. Hence in this case the equation fails us.[1] In the more important case in which both income and non-available output are increased, through the payment of new money to factors of production which are drawn into employment in order to build up increments of working capital, the equation stands; but the inference drawn from it—that a change of this type affects in the first instance only the second term of equation (ii) and not the first—is only valid on the assumption that the change can be effected without bringing into play the law of diminishing returns. For otherwise, since a unit of output is defined as being that output which has a given cost of production at the base date, E will be increased out of proportion to O, and the first term of the equation will rise.

4. I pass to the second fundamental equation, which introduces us to P', the price-level of C, and Π, the price-level of O. We have $\Pi = \frac{PR + P'C}{O}$ (i), whence by easy algebra $\Pi = \frac{E}{O} + \frac{I - S}{O}$ (ii) where $I = P'C$, the value of " investment."

[1] My attention was first drawn to this point by Mr. A. Golodetz of Trinity College, Cambridge: nor do I claim discovery of the point which follows.

The main thing to notice about (i) is that of all the truisms in which the theory of the value of money has been formulated, this is the most truistical. For it does not, like the Fisherine type of equation, direct our attention to a phenomenon of the market, nor, like the Marshallese type, to a phenomenon of the mind; it is simply the formulation of a weighted average. This, while it is a little surprising in an equation whose claim to superiority over its predecessors is made to rest on its superior efficacy in directing our attention to the causal processes involved, is not, of course, in itself a condemnation. It merely means that, as Mr. Keynes admits, we must look outside the equation for an account of the forces determining the crucial term P'. But it is, I think, the main source of weakness in the whole structure that Mr. Keynes has nowhere thought it necessary to reduce the forces determining P' to an equational form.

Before approaching directly the problem of P', we may for a moment pause over a statement on p. 136 about the relation between P and P' which may have hung up others besides the present writer. " The price-level of consumption-goods," we there read, " is entirely independent of the price-level of investment-goods." This is true in the limited sense that each price-level depends proximately on the flow of the relevant class of goods and on the flow of money directed to its purchase. But it is rightly conceded on p. 143 that both R and the flow of money directed on to R will themselves be influenced by the level of P'; and it is urged on p. 152 that the conditions of equilibrium of P include equality of S with I, *i.e.* with the *value* of C, not merely with its amount. It seems, therefore, that we need not take the statement on p. 136 too much to heart.

What is P'? It is the price of " investment," which by definition includes increments to working capital as well as new machines or " capital goods." [1] But this composite nature of C is not always, I think, sufficiently remembered. Thus the argument connecting P' with the rate of interest, which is first stated on p. 154, and to which I shall return, is relevant only to the price-level of that part of C which consists of new machines. The price-level of increments of working capital is a somewhat elusive notion. Sometimes (p. 314) Mr. Keynes treats the price-level of working capital *as a whole* as being practically identical

[1] Incidentally, " production of consumption-goods " on p. 134, line 19, should read " production of available output," since the former phrase has been defined on p. 130 to include additions to working capital in consumption-trades, and thus to overlap with " investment," with which on p. 134 it is contrasted.

with the price-level of raw materials at wholesale. But the more natural interpretation of the price-level of *increments* of working capital is that it is the price at which the entrepreneur buys from the factors of production the additions which they make to the total of goods in process, *i.e.* is the " cost of production " of these additions. This " cost of production " is *ex hypothesi* invariable, *i.e.* the value and the cost of this part of C are necessarily identical.

This fact, elsewhere ignored, is skilfully utilised in the celebrated banana parable (pp. 176 ff.), where it is tacitly assumed that the only form of " investment " known is the creation of increments of working capital, and nothing is said about the existence of any normal output of new machines, such as is characteristic of an ordinary modern community. If in Bananaland there is such an output, it is at least possible that the public, when it decides to " save," should bid up the price of the current output of mechanical banana-cutters. In this event, while S exceeds I' it will not exceed I—the price-level of output as a whole will not alter, and the losses of the banana-growers will be balanced by the abnormal profits of the banana-cutter-makers. But if the only kind of " investment " which people can buy is the normal annual increment of goods in process, whose price is prevented from diverging from its cost of production by the rule that the incomes of the factors of production must not alter, then indeed it *does* follow that an excess of S over I' involves also an excess of S over I, and that the additional savings of the public must remain unspent.[1]

5. Except in the banana saga, Mr. Keynes, like most writers, envisages a considerable output of new machines as a normal feature of equilibrium. I am not indeed sure that he fully takes account of the features which sharply differentiate an equilibrium so conceived from the so-called " stationary state "; but of that more anon. We can, I think, take it that it is usually of the price of new machines that he is thinking when he speaks of P', the price of " investment " or " non-available output." But during a very crucial passage of the argument (pp. 140–46), a fog

[1] While this is the comment on Mr. Keynes' banana fable most relevant to my own theme, it is not, I think, the most fundamental answer to his dilemma, which is to be found rather along the Böhm-Bawerckian lines explored by Dr. Hayek (" The ' Paradox ' of Saving," *Economica*, May 1931). The flood of savings will ultimately find its vent in facilitating the more roundabout methods of production made profitable by the accompanying fall in the rate of interest. I should not agree with Dr. Hayek that this solution has much relevance to the problem of cyclical depression; but then Mr. Keynes' legend seems to be not so much one of cyclical depression as of secular decay.

is created through the use in close collocation of the word "investment" in this technical sense (*e.g.* p. 144, line 23), the words "new investment goods" in the same sense (*e.g.* p. 145, line 23), the word "investments" in the more ordinary sense of stock exchange securities (p. 142, line 30), and finally the words "new investments" (p. 143, line 18) in a sense which I must leave it to the reader to determine. Under cover of this fog we are guided towards the impression that there is no distinction between the price-level of existing stock exchange securities and the price-level of new machines. This view is indeed definitely and rightly repudiated a hundred pages later (p. 249), where we read, "Nor does the price of existing securities depend at all closely over short periods either on the cost of production or on the price of new fixed capital." But it is to be feared that the damage has been already done, and that this wave of fog is partially responsible for what is, in my judgment, the crucial defect in Mr. Keynes' analysis. For it is on p. 145 that the conclusion is reached that, if P declines owing to an excess of S over I', then, *even though there is no increase in the disposition to hoard money unspent*, there need be no counterbalancing rise in P', and there will therefore be a fall in Π, the price of output as a whole.

The argument adduced in support of this paradox is that "if the value of the new investment-goods is less than the volume of current savings, entrepreneurs as a whole must be making losses exactly equal to the difference," and will finance these losses by selling securities to those who have surplus savings to dispose of. But the fact which this argument suppresses is that such a state of affairs cannot come about except as the result of an act of "hoarding," *i.e.* of holding back unspent part of a stream of money which is normally spent, *on the part of some one.*

We must, I think, picture equilibrium as a state of affairs in which two streams of money radiate outwards from "the public," one (A) passing through the dealers in consumable goods to the producers of consumable goods, the other (B) passing through the dealers in securities into the hands of company promoters and the like, and through them to the producers of new machines. "The public," it is true, buy for the most part existing securities and not new issues; but it is a commonplace that it is only through their willingness to invest their savings in existing securities that money is set free in the hands of more adventurous persons to finance extensions in the nation's stock of real instrumental capital. Now suppose "the public," feeling an increased desire to save but not to hoard, switches over a streamlet of money from stream A to stream B. The price of consumable goods falls, and we may accept provisionally Mr. Keynes' contention that their producers realise " losses." But unless there is a hitch-up in the movement of stream B, either in the hands of " the public," or in those of the dealers in securities, or in those of the promoters, etc. who spend the proceeds of new issues, the stream B will be augmented to a precisely similar extent, and the producers of machines will in any period make " profits " precisely equal to the " losses " of the producers of consumable goods. If, therefore, an impoverished bootmaker hurries on to the market with a block of War Loan to sell, the buyer (if any) who will rush to meet him will be not a member of " the public," but (say) a bloated shipowner.

Now I am far from urging that such a hitch-up of the money stream B may not occur—on the contrary, I think it of the utmost importance that it frequently does. What I am urging is that one thing, and one thing only, can make it occur, namely, an increased desire on the part of somebody to " hoard," that is, to keep resources idle in the form of bank deposits. The point of difference between Mr. Keynes and those previous writers [1] who have recognised the possibility of savings running to waste in a general fall of prices, seems to be that he is at pains to distinguish *two* factors at work, which he christens the " excess-savings factor " and the " excess-bearish factor " (p. 145), either of which operating alone is sufficient to produce the result in question, while they detect one only—an increased desire to " hoard." What Mr. Keynes seems to me to have done is to extend illegitimately to the price-level Π an argument about excess saving *as such* which is perfectly valid for that price-level P which there are indications scattered throughout the book (*e.g.* pp. 54 and 134) that in his heart he regards as of superior and indeed of unique interest. And he has been led into doing this because he has nowhere applied to P' that rigorous Fisherine concept of a certain flow of money in a given time-interval meeting a certain flow of goods in the same time-interval, which in his first fundamental equation he has applied without question to P. In other words, he has reached his paradox that P can fall, P'

[1] Mr. Keynes, in his preface and elsewhere, has alluded so generously to my share in the evolution of this idea that I should like to repeat what I said in the preface to my *Banking Policy and the Price Level*—that that book took its final shape after such close and frequent consultations with him that it ceased to be possible to say how far the ideas set out in the crucial Chapters V and VI belonged to him and how far to me.

remain unchanged, and yet no new hoarding take place, by unconsciously permitting the two money streams concerned to get out of step with one another.

To prevent misunderstanding, it may be worth while to carry the story a little further, in the form of a highly simplified numerical illustration, so as to show how the alleged sale of assets, in order to maintain the scale of their operations unchanged, by entrepreneurs who are making less than their normal incomes, works out in terms of the old concepts.[1] On zero day, " the public " are spending £900 on boots and £100 on old securities; " speculators " are receiving £100 from " the public " and spending it on new issues; and " promoters " are receiving £100 from speculators and spending it on new machines. On day 1 the public, desiring to save more, spend £800 on boots, and £200 on old securities, of which half comes out of the safes of speculators. The money stream expended by speculators and promoters remains unchanged: speculators have " hoarded " £100. On day 2 the public behave as on day 1; but on this day the extra £100 of securities comes out of the safes of bootmakers, seeking to recoup their losses. The £100 hoarded by the speculators on day 1 remain tucked away. Days 3, 4, etc. resemble day 2 in every respect: the price-level of boots remains stable at $\frac{8}{9}$ of its old level, while that of machines is unaltered.[2]

Now how does this work out in terms of quantity equations? Let M be the quantity of money, V its velocity of circulation against output (alternatively, the number of times per year it becomes income), V^1 its velocity of circulation in all transactions, R the volume of output, T the volume of transactions, P the price-level of R and P^1 the price-level of T. Then our equations are $MV = PR$ and $MV^1 = P^1T$. Comparing day 3 with zero

[1] I do not propose to discuss how far such sales are quantitatively important as compared with the alternatives open to the entrepreneur, viz. cutting down his personal expenditure, cutting down his normal purchases of capital goods, cutting down the scale of his current operations: but I think Mr. Keynes has done a real service in calling attention to their existence. I would only remind the reader that if he wishes to keep to Mr. Keynes' terminology he must resist the temptation to describe such sales of assets as " dissaving " or " negative saving "—which is what in fact they are!

[2] Mr. Keynes may prefer a variant of the story as follows. Let us suppose that normally bootmakers have £1800—*i.e.* two days' receipts or expenditure—in hand at the close of the day. Then at the end of day 1 they have only £1,700 in hand. On day 2 they spend £900 as usual, receive £800 from consumers, and raise £200 by the sale of securities—half to the public, half to speculators—thus bringing their money holdings up to the old level. In this case the hoard of the speculators is transferred to the bootmakers: but no difference is made to the events on days 3, 4, etc., nor to the fundamental interpretation of the equations for those days.

day, it is clear that M and R and V^1 are unchanged, V and P and P^1 have fallen, T has risen. Does the alleged inadequacy of the quantity concept to reveal the truth amount only to this—that we must be careful not to expect the price-level of *one set of things* to vary with the velocity of circulation of money against *another set of things?* That certainly is an entirely acceptable, if not very startling, conclusion.[1] But since the alleged inadequacy extends also to periods of boom (see § 2 of this paper), when there is no counterpart to the increase of T through the forced sales of securities in the slump, I hardly think this can be the correct interpretation.

6. I pass to the passages in which Mr. Keynes discusses what he regards as the main determinant of P', namely, the long-period rate of interest.[2] Following Wicksell and Cassel, he argues correctly that a fall in the rate of interest increases the number of years' purchase at which the future annual income anticipated from the possession of a given machine is capitalised, and therefore raises the purchase price which it will be worth offering for the machine. But I suspect that, as a short-period influence on the price of machines, he greatly exaggerates the importance of this factor as compared with a rise in the price of the products which the machine produces, or, for that matter, with a fall in the costs of operating it. It is indeed rather curious that Mr. Keynes, who is much concerned to show that P and P' are more likely to move in the same than in opposite directions, should on p. 181 be so emphatic that " whether producers of investment-goods make a profit or a loss . . . does *not* depend on whether the producers of consumable-goods are making a profit or a loss." I suspect that most people would hold that during a slump the prime influence which depresses the price of ships is the fall in

[1] Exactly analogous results can, of course, be reached in terms of the Marshallian concept K. Owing to the increase in the stream of transactions, K^1—the proportion of the annual volume of transactions which people wish to hold enough money to conduct—is unchanged, while K—the proportion of annual output which people wish to hold enough money to buy—has risen.

[2] I do not propose to comment at length on the extremely interesting passages in which Mr. Keynes—with, as it seems to me, some confusing transitions in terminology—discusses the relations between bank-rate proper, short money rates in general, and long interest rates. I will only say that (i) his concept of the " fringe of unsatisfied borrowers " (II. 364) seems to me to throw much light on a difficult matter; (ii) in the light of the events of 1930, I should be inclined to substitute " less " for " more " in his conclusion (II. 362) that " short-term rates influence long-term rates more than the reader might expect "; and (iii) that I think there is some confusion in the suggestion (II. 381) that non-industrial borrowings influence only the market rate of interest and not the " natural " rate.

the level of freights. In any case, the rate of interest, like other factors, surely exerts its influence on the price of machines through modifying the stream of money which people think it worth while to devote to their purchase. There are some curious sentences which lead me to suppose that Mr. Keynes might deny this—that he regards the effect of interest-changes on the price of machines as arithmetical and mechanical, supplementary changes in the demand for such goods being regarded as affecting not their price but the quantity which will be bought at the price thus mechanically fixed. " The deterrent or attractive effect (of a high bank-rate) on the demand for new capital-goods is often greater than one might expect if one was to concentrate all one's attention on the mere change of (say) $2\frac{1}{2}$ per cent. to 5 per cent. in the value of such goods due to the change in the rate of interest " (p. 203; cf. p. 208, bottom). This is surely a mistake. Once more, P', like other price-levels, is the resultant of the mutual impact of the relevant flow of money and the relevant flow of goods. Clinging to this rock, we shall find the rate of interest falling into its place as one of the factors affecting the magnitude of the former flow,[1] through affecting the old Marshallian K—the desire of people to " hoard," that is, to keep command over resources in monetary form instead of embarking on the purchase of goods.

If Mr. Keynes thus tends to over-exalt the rate of interest at the expense of K, he tends also from time to time to over-exalt it at the expense of the quantity of money M. Thus on II. 211 it is declared to be only through the rate of interest that the monetary authority can influence prices, since it cannot control M; though in later chapters the extent and importance of its power over M through the method of open-market dealings are strongly emphasised. Even the synthesis which he attempts at the end of the chapter on " the *modus operandi* of bank rate " (I. 220) rings a little strangely. " But the fundamental reason for laying the stress on changes of bank-rate . . . rather than on changes in the quantity of money is this. Given associated changes in the total quantity of money, and the effective level of bank-rate respectively, it is *via* the latter that the ultimate modification in the purchasing power of money is generated, looking at the problem dynamically. The order of events is *not* that a change of bank-rate affects the price-level, because in order to make the new bank-rate effective the quantity of money

[1] Cassel (*Theory of Social Economy*, ch. xviii, § 75) gives a very interesting and intricate analysis of the complicated interactions of the various factors influencing the price of machines during the successive phases of the trade cycle.

has to be altered. It is, rather, the other way round. A change in the quantity of money effects the price-level in the first instance because, other things being equal, this means a bank-rate which will change the rate of interest relatively to the natural rate." Now it is arguable that if A is the initiating cause of a change, and B merely the instrument through which A works, it is the part of a philosopher to assign primary importance to A. But indeed I suspect that this whole controversy is a debate of the hen-and-egg order between two of Mr. Keynes' skins (Preface, p. vi).

7. However that may be, there is, I think, one point at which Mr. Keynes' preoccupation with the connection between the rate of interest and the price of machines leads him into definite error. He goes so far (p. 211) as to deny altogether the influence of a change in bank-rate on the aggregate of output. " An all-round reduction of the costs of production should not stimulate anyone to increase his output, inasmuch as the aggregate incomes of consumers, which are simply the aggregate costs of production under another name, available to purchase the output, are also being reduced to the same extent. . . . The effect of easier credit on the costs of production [1] should be, not to stimulate output all round, but to cause a change-over from certain forms of production to other forms, namely, from those for which interest is a relatively unimportant cost to those for which it is a relatively important cost." There seems to me here to be a double error.[2] First, there is a confusion between " costs per unit of output " and " aggregate costs." If the aggregate real demand for goods in general is elastic, and if the monetary system is responsive to this elasticity, there is no reason why, even in a closed system, a fall in interest cost, or in any other cost, should not lead to an increased aggregate money remuneration of the factors of production, including that whose rate of remuneration has been lowered. This process admittedly may take time; but, secondly, Mr. Keynes is ignoring altogether the immediate increase in the volume of bank money which is admittedly normally associated (whether as hen or egg) with the lowering of bank-rate, and which,

[1] ? For " on the costs of production " read " on output."

[2] I had almost written " a triple error," bearing in mind that the possibility that the saved interest will simply be added to the net receipts of the entrepreneurs, and expended by them on goods, period after period, just as it would have been by the interest receivers. But in this case there will, it is true, be no *immediate* increase of output; also the case is perhaps ruled out by the assumption of competition. The arguments for wage reduction put forward by the railway companies in 1931 show, however, that this type of reply is not always irrelevant to the claim that a reduction in a certain category of aggregate costs (in the railway case, wage-costs) will necessarily reduce aggregate buying power.

being used by entrepreneurs for the building up of new working capital, becomes income in the hands of consumers in the manner explained in detail in Chapter XX—a chapter with which the present passage seems wholly inconsistent.[1] I do not, of course, deny that a change in bank-rate, especially if it permeates through to long-term rates of interest, will have a *greater* effect on some branches of production than on others; nor do I deny that in some circumstances it will have very little effect on anything at all; but the particular reason given for its being necessarily (in the absence of error) inoperative on output as a whole is, I feel sure, both fallacious in itself and inconsistent with much of the rest of Mr. Keynes' analysis.

One more comment before leaving the rate of interest. Wicksell argued that if the market rate of interest was put down below the " natural rate," the rise in prices would continue indefinitely until the market rate was put up again. Cassel argued that it would not, because as a result of the stimulus thus given to what Mr. Keynes calls " investment," the capital market would become saturated and the natural rate of interest fall till it equalled the market rate, which would then no longer be artificially low. Mr. Keynes refers to this controversy without stating clearly the point at issue (p. 198), and indicates that his sympathies are on the side of Wicksell; yet a few pages later (p. 203) we find him, in the converse case of a rise in the market rate, arguing exactly on Cassel's lines. For he writes that the rise in the market rate and the consequent fall in the price of instrumental goods " must necessarily be deterrent to the production of such goods until, as a result of it, the falling off in their prospective supply has raised the money value of their prospective yield sufficiently to offset the effect of the higher rate of interest." It is not clear, therefore, where his quarrel with Cassel lies.

8. I pass on to another distinctive feature of Mr. Keynes' work—the sharp distinction which he draws between " incomes " and " profits." " Incomes," it will be remembered, include the normal earnings of the entrepreneur, whether these are in fact being earned or not; and " profits," positive or negative, are composed of the difference between the *actual* net receipts of the entrepreneur per unit of time and these theoretical " incomes." " Incomes " are usually assumed not to alter during the short

[1] For that chapter contains an account of what happens when " the banks adopt a lending policy which allows the production of consumption-goods to increase," in such wise as " to permit all the unemployed factors of production to return gradually to work " (p. 305).

transitional periods with which, in the study of the trade cycle, we are concerned. "Savings" can only be made out of "incomes," so that if an entrepreneur spends his "profits" on the purchase of new machines, he is not "saving," while if he refrains from spending on consumption a normal income which he has never received, he is deemed to be "saving."

I do not think there is any question that this terminology is extremely confusing, and will be liable to lead even practised thinkers into error unless they are continually on their guard. How many of those who have taken up the cry that a slump is due to an excess of Savings over Investment, and a boom to be an excess of Investment over Savings, realise that the savings which are so deplorably abundant during a slump consist largely of entrepreneurs' incomes which are not being spent, for the simple reason that they have not been earned? How many of them realise that, in striking the balance during the boom, we must count in Investment all purchases of capital equipment out of the boom profits of entrepreneurs, but must refrain from counting the money so spent among the Savings? It must, I think, be left to the gradual experience of teachers and expositors to decide whether the new terminology has sufficient advantages to outweigh its very obvious dangers. Meanwhile, I confine myself to a few special comments.

In analysing the course of a boom, it is of course essential to introduce at some stage of the argument the well-known fact that, in Professor Pigou's words, a rising price-level involves both a doctoring of past contracts in favour of entrepreneurs, and also the opportunity of making new contracts on exceptionally favourable terms, thus giving them both the means and the motive to expand the scale of their operations. But I doubt very much whether it tends to clarity to introduce this secondary complication *from the start* into the exposition of the primary process by which the creation of new bank credit in favour of certain entrepreneurs enables them directly to draw new factors of production into employment, and to maintain them at the expense of a sacrifice of real income by the remainder of the community. It is, I think, worth while being made to realise that in a community of peasant proprietors and small industrialists, in which all incomes were mobile, and "profits," in Mr. Keynes' sense, impossible, it would still be possible for the Government or the banking system, by means of inflation, to transfer real income to itself or its nominees. Similarly, it is important to realise that, if there is an increased desire on the part of the public to "hoard," there is not *merely* (as I think readers of Mr. Keynes' words on p. 174 [1] and p. 316 might suppose) a transfer of money balances to the savers from the entrepreneur class, but *also* an increase in the real value of the aggregate of money balances as a whole; and this again is more easily grasped if we start by considering a community in which the difference between entrepreneurs and others does not exist.

These, however, are matters of pedagogics rather than of substance. A more substantial question is whether the category of gains which would give entrepreneurs, if they were free to make new bargains with the factors of production at the existing rates, an incentive to increase production (which is the definition of "profits") can rightly be regarded as coextensive with the category of gains arising out of the doctoring of past contracts in favour of entrepreneurs as a result of price-inflation. Granted, however, provisionally that it can, I wish that Mr. Keynes had been content to treat the fact that the departure of profits from zero is the mainspring of industrial change (pp. 140, 157) as a sufficient ground for differentiating them, at some stage of the argument if not at the start, from other incomes, instead of seeking supplementary reasons which will not, I think, bear examination. Thus the quasi-magical peculiarity attributed to profits on p. 139, where it is stated that they form a widow's cruse, which is never depleted however riotously it is spent, turns out, I think, to be only a special case of the general principle (operative, presumably, in every type of society) that all money must at any moment be somewhere; [2] so that if we have ruled out (openly) the possibility that "costs" per unit of output can rise and (tacitly) the possibility that output, and therefore *aggregate* costs, can be increased,[3] the money spent on any day

[1] "There is a transference of wealth to the savers from the general body of producers . . . total wealth remaining unchanged." There is ambiguity here in the word "wealth"; the real capital of the community is unchanged, but the real value of its money-stock is increased—an instructive paradox which Mr. Keynes' treatment tends to conceal.

[2] It is to that extent more comforting than the doctrine which seems to be put forward on p. 148, and which is the foundation for the paradox alluded to in my paragraph 2 above—that money connected with the receipt of profits need not be anywhere, and hence that P' can rise and profits emerge without any "increase in the quantity of money (or equivalent change in other monetary factors)." Once more, I cannot bring myself to believe that the question of what is done with profits in the period after they are earned affects the fact that (output being unchanged) P' cannot alter, nor profits emerge, without a change in "monetary factors."

[3] I have to thank Mr. J. E. Meade of Hertford College for putting me on the right track here.

by one entrepreneur must be found at nightfall in the bank balance of another.[1]

On the following page (140) a further reason, which if sound would also be a graver one, is adduced why " it would be anomalous to add profits to, or subtract losses from, income "; namely, that " in that case savings could never fall off, however great the expenditure of the public on current consumption, and equally savings could never be increased by a reduced expenditure on consumption; provided merely that entrepreneurs were continuing to produce the same output of investment-goods as before." I cannot see any foundation for this opinion, which must, I think, spring from a failure, analogous to that discussed in paragraph 4, to distinguish the successive periods of time during which the flow of money must be watched, and to which our equation, in whatever terms we express it, must be successively applied. Let us agree to call all net receipts by the name " income "; and let us suppose (to take only one of many possible cases) that on day 1 non-entrepreneurs switch over a stream of £100 from expenditure on machines to expenditure on boots, all other money-flows remaining unchanged. Then there is on that day a falling off of £100 in the daily rate of savings. Now suppose that on day 2 non-entrepreneurs act again as on day 1, while boot entrepreneurs spend on champagne the extra income received on day 1, and machine entrepreneurs, having on day 1 received £100 less income than usual, refrain from buying £100 worth of machine-making machinery which they would normally have bought. Then, on this day, the daily rate of savings is reduced by £200 below the level from which we started. Where is the difficulty?

9. In conclusion, I must confine myself to a few very tentative remarks on the relation between Mr. Keynes' analysis and the broader theory of the trade cycle in its relation to economic progress. Whatever may turn out to be the most accurate and convenient form of expression, I have no doubt that Mr. Keynes is right in laying stress on " hoarding " as a dominant feature of trade depression. In this respect I feel sure his work is of high significance; for nine out of ten people, including many bankers, are still quite unable to see how, under a modern banking system,

[1] It seems to me, however, misleading to add that " however much of their profits entrepreneurs spend on consumption, the *amount of wealth* remaining to entrepreneurs remains the same as before " (my italics); for the more entrepreneurs spend their profits instead of hoarding them, the more prices will rise, and the less will become the real value of the bundle of money thus tossed to and fro.

deposits which are "in" the banks can fail to be "used" by the banks in some way or other; and even most of those Continental theorists like Tugan Baranowsky and Spiethoff, between whose work and his own Mr. Keynes is right in finding points of affinity, seem to have failed to grasp the essential paradox that Saving is the one thing that cannot be saved.[1] Where I suspect that there is still work to be done is in clearing up the nature of the forces which let the spirit of hoarding loose. And that brings me back to a point to which I have already alluded—the peculiar nature of the state of affairs which Mr. Keynes, like the rest of us, has brought himself to regard as that of "normality" or "equilibrium." It is a state of affairs in which the community is adding year by year to its stock of capital equipment at such a rate as not merely to keep pace with the growth of population, but to raise perceptibly the standard of comfort.[2]

I shall not attempt even to outline here the reasons which have led me always to suppose that in such a society the technical obstacles to the maintenance of anything which can be called "stability" must always be extremely formidable, nor those which lead me to think that if, in face of this "normal" increase in capital equipment per head, "stability" is to be interpreted to mean "stability of commodity prices," the difficulties become more formidable still. I will content myself with one illustration. Looking back on the American expansion of 1925–29, Mr. Keynes finds that up to 1927 the prodigious volume of "investment" was accompanied by an equally prodigious volume of "saving," but in the subsequent years he is able now to detect signs of that "commodity inflation"—that "excess of investment over savings"—the existence of which he was at the time disposed to deny (II. 190). But would it make much difference if he could detect no such thing? Even if "savings" had continued to keep

[1] Subsequent writers, including myself, have failed to do justice to the clarity with which this paradox was already expressed in the first edition (1920) of Pigou's *Economics of Welfare*, p. 812. "What they have done by not spending their money has been to reduce prices in general below what they would otherwise have been, thus making the money of other people worth more goods than it would otherwise have been worth, and thus enabling these other people to buy more goods. What they have accumulated by this proceeding is, not things, but the power, when they choose later on to spend the money, to raise prices, reduce the purchasing power of other people's money, and absorb for themselves the goods which have in this way been rendered inaccessible to others. The accumulation is, thus, an accumulation of claims upon other people. It is not an accumulation of things."

[2] Mr. Keynes is not very explicit about this, but I take it to be the implication of his assumption in Chapter XVI, that "general economic activity" is growing at 3 per cent.

pace, could "investment" have continued for ever in America at the rate which it attained in those years? And what is the effect of an indiscriminate stimulation of "investment" by low money rates and a general policy of boost at a time when all the known channels of investment are in a state of super-saturation? [1] At such times, is the "put them through it" policy of the parrots and the penguins a mere relic of sadistic barbarism, or is it in truth an essential phase of the clinical treatment of the trade cycle, whose omission is as perilous as its over-prolongation? [2] These are some of the broader questions over which Mr. Keynes' rich volumes leave me, having sated the passions of pedantry, still puzzled and pondering.

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[1] See the most suggestive remarks in Kreuger and Toll's report, April 1931.

[2] I venture to refer to my *Banking Policy and the Price Level*, pp. 80 and 91.