Scientific psychology has established as its basic thesis the fact that the modern psychological human type is a product of two evolutionary lines. On the one hand, this modern type of human being developed in a lengthy process of biological evolution from which the biological species *homo sapiens* has arisen, with all its inherent characteristics from the point of view of body structure, the functions of various organs and certain types of reflexes and instinctive activity, which have become hereditarily fixed and which are passed on from generation to generation.

But together with the beginning of social and historical human life and the fundamental changes in the conditions to which he had to adapt himself, the very character of the subsequent course of human evolution also changed very radically. As far as one is able to judge on the basis of the available factual material, which has been obtained mainly by comparing biological types of primitive peoples at the most primitive stages of their cultural development with representatives of the most culturally advanced races, as far as this question can be resolved by contemporary psychological theory, there are strong reasons to suppose that the biological human type has changed remarkably little during the course of the historical development of man. It is not, of course, that biological evolution has come to a stop and that the species 'man' is a stable, unchangeable, constant quantity, but rather that the basic laws and the essential factors which direct the process of biological evolution have receded to the background and have either completely fallen away or have become a reduced or sub-dominant part of new and more complex laws governing human social development.

Indeed, the struggle for existence and natural selection, the two driving forces of biological evolution within the animal world, lose their decisive importance as soon as we pass on to the historical development of man. New laws, which regulate the course of human history and which cover the entire process of the material and mental development of human society, now take their place.

As an individual only exists as a social being, as a member of some social group within whose context he follows the road of his historical development, the composition of his personality and the structure of his behaviour turn out to be a quantity
which is dependent on social evolution and whose main aspects are determined by the latter. Already in primitive societies, which are only just taking their first steps along the road of their historical development, the entire psychological makeup of individuals can be seen to depend directly on the development of technology, the degree of development of the production forces and on the structure of that social group to which the individual belongs. Research in the field of ethnic psychology has provided incontrovertible proof that both of these factors, whose intrinsic interdependence has been established by the theory of historical materialism, are the decisive factors of the whole psychology of primitive man.

Nowhere else, according to Plekhanov, does that dependence of consciousness on the way of life manifest itself in a more obvious and direct manner as it does in the life of primitive man. This is due to the fact that the factors which mediate between technological and psychological progress are very meagre and primitive and this is the reason why this dependence can be observed almost in the raw. But a much more complicated relationship between these two factors can be observed in a highly developed society which has acquired a complex class structure. Here the influence of the basis on the psychological superstructure of man turns out to be not direct, but mediated by a large number of very complex material and spiritual factors. But even here, the basic law of historical human development, which proclaims that human beings are created by the society in which they live and that it represents the determining factor in the formation of their personalities, remains in force.

In the same way as the life of a society does not represent a single and uniform whole, and society is subdivided into different classes, so, during any given historical period, the composition of human personalities cannot be said to represent something homogeneous and uniform, and psychology must take into account the basic fact that the general thesis which has been formulated just now, can have only one direct conclusion, to confirm the class character, class nature and class distinctions which are responsible for the formation of human types. The various internal contradictions which are to be found in different social systems find their expression both in the type of personality and in the structure of human psychology in that historical period.

In his classic descriptions of the early period of capitalism, Marx frequently dwells on the subject of the corruption of the human personality which is brought about by the growth of capitalist industrial society. On one extreme end of society, the division between intellectual and physical labour, the separation between town and country, the ruthless exploitation of child and female labour, poverty and the impossibility of a free and full development of full human potential, and on the other extreme, idleness and luxury; not only does all this result in the single human type becoming differentiated and fragmented into several separate social class types which stand in sharp contrast to one another, but also in the corruption and distortion of the human personality and its subjection to unsuitable, one-sided development within all these different variants of the human type.
'Along with the division of labour', says Engels, 'man himself became subdivided.' According to Ryazanov, 'every form of material production specifies some social division of labour, and this is responsible for the spiritual division of labour. Beginning already with the corruption of primitive society, we can observe selection of a number of spiritual and organizational functions into special species and sub-species within the scheme of the social division of labour. Engels further says:

Already the very first major division of labour, the division of town from country, sentenced the rural population to millennia of mental torpor, and the city dwellers to enslavement, each by his particular work. It destroyed the basis for spiritual development for the former, or physical development for the latter. If a peasant is master of his land and the craftsman of his craft, then in no lesser degree the land rules over the peasant and the craft over the craftsman. The division of labour has caused man himself to become subdivided. All remaining physical and spiritual faculties are sacrificed for the sake of developing just one type of activity.

This degeneration of man increases at the same rate as the division of labour, which reaches its highest level in manufacture. Manufacture breaks up craftsmanship into fractional operations and assigns each of them to a separate worker as his life vocation and chains him down to a specific fractional operation, to a specific tool of labour for the rest of his life . . .

And it is not only workers, but also the classes who exploit them directly or indirectly, who become enslaved by the instruments of their activities, as a result of the division of labour: the petty bourgeois, by his capital and desire for profit; the lawyer by his ossified juridical ideas which rule over him like an independent force; 'the educated classes' in general, by their particular local limitations and one-sidedness, their physical shortcomings and spiritual myopia. They are crippled by their education which trains them for a certain specialty, by their lifelong enslavement to this specialty, even if this specialty is doing nothing at all.

This is what Engels wrote in 'Anti-Dühring'. We have to proceed from the basic assumption that intellectual production is determined by the form of material production.

So, for example, a different form of spiritual production than the type which was prevalent during the Middle Ages fits in with capitalism. Each historically defined form of material production has its corresponding form of spiritual production, and this, in its turn, signifies that human psychology, which is the direct instrument of this intellectual production, assumes its specific form at a certain stage of development.

This crippling of human beings, this one-sided and distorted development of his various capabilities which Engels describes, and which appeared together with the division of town and country, is growing at an enormous rate due to the influence of the technological division of labour. Engels writes:
All the knowledge, the insight and the will which both the independent peasant and craftsman develop albeit on a small scale, like the savage who makes the whole art of war consist of the exercise of his personal cunning—these faculties are now required only for the workshop as a whole. The intellectual potencies of production make them expand in one direction, because they vanish in many others. What is lost by the detail labourers ['Teilarbeiter'] is concentrated in the capital that employs them. It is as a result of the division of labour in manufacture that the labourer is brought face to face with the intellectual potencies of the material process of production, as the property of another, and as a ruling power. This process of separation begins in simple co-operation, where the capitalist represents to the single workman the oneness and the will of the social labour ['Arbeitshörpers']. It is developed in manufacture which cripples the labourer into a detail labourer. It is completed in large scale industry, which separates science as a productive potential from labour and presses it into the service of capital.  

As a result of the advance of capitalism, the development of material production simultaneously brought with it the progressive division of labour and the constantly growing distorted development of the human potential. If in manufacture and manual labour the worker makes use of his tools, then in a factory he becomes the servant of the machine. Marx says that in the former case he initiates the movement of his tool, but here he is forced to follow its movement. The workers turn into 'living extensions of machines', and what results is a 'dismal monotony of the endless torment of labour', which Marx [1890/1962, p. 445] says is the characteristic feature of that period in the development of capitalism which he is describing. He is tethered to a specific function, and according to Marx [ibid., p. 381], this turns him 'from a worker into an abnormality and artificially ['treibhauamäßig'] fosters him in just one special skill whilst suppressing all the remaining wealth of his productive inclinations and talents'.

In our times, child labour represents a particularly horrifying example of the disfigurement of human psychological development. In the pursuit of cheap labour and due to the extreme simplification of the separate functions which the workers have to carry out, large scale recruitment of children becomes possible and this results in a retarded, or a wholly one-sided and distorted development occurring at the most impressionable age when the personality of the person is being formed. Marx's classic research is full of examples of 'intellectual barrenness', 'physical and intellectual degradation', 'transformation of immature human beings into machines for the production of surplus value' [ibid., pp. 421–2], and he presents [ibid., p. 514] a vivid picture of the whole process which results in a situation where 'the worker exists for the sake of the production process, and not the production process for the sake of the worker'.

However, all these negative factors do not give a full picture of how the process of human development is influenced by the speedy growth of industry. All these adverse influences are not inherent in large scale industry as such, but in its capitalist organization, which is based on the exploitation of enormous masses of the population and which has resulted in a situation where, instead of every new step toward the
conquest of nature by human beings, every new level in the development of the production forces of the society, has not just failed to raise humanity as a whole and each individual human personality to a higher level, but has led to an ever deeper degradation of the human personality and its growth potential.

Whilst observing the crippling effects of the process of progressing civilization upon human beings, philosophers like Rousseau and Tolstoy could not see any other solution than a return to the integral and pure human nature. According to Tolstoy, our ideal is not ahead of us but behind us. In this sense, from the point of view of this reactionary romanticism, the primitive periods of the development of human society appear as that ideal toward which humanity should be striving. And really, a deeper analysis of the economic and historical tendencies which regulate the development of capitalism, shows that this crippling process of human nature which was discussed above, is inherent not only in the very fact of the growth of large scale industry, but in the society's specific capitalist form of organization.

The most fundamental and important contradiction in this whole social structure consists of the fact that within it, under relentless pressure, forces are evolving and preconditions are being created for its destruction and replacement with a new order, which is based on the absence of man's exploitation of man. More than once, Marx demonstrates how labour by itself or large scale industry by itself does not necessarily have to cripple human nature, as a follower of Rousseau or Tolstoy would assume, but, on the contrary, it contains within itself endless possibilities for the development of the human personality.

He says, 'As can be ascertained from the particulars given by Robert Owen, a seed of a future educational system has grown, which will combine productive labour with schooling and physical education for all children above a certain age, not only as a method of increasing social production, but as the only method of producing well rounded educated human beings' [ibid., pp. 507–8]. So the participation of children in manufacturing, which under the capitalist system, particularly during the period of growth of capitalism described, is the source of physical and intellectual degradation, contains seeds for a future educational system in itself and may well turn out to be a higher form of creation of a new type of human being. The growth of large scale industry in itself makes it necessary to work out a new type of human labour and a new type of human being who would be capable of carrying out these new forms of work. 'The nature of large scale industry stipulates a changing work; a continual changing of functions and an all-round mobility for the worker', says Marx. 'The individual who has been turned into a fraction, the simple bearer of a fractional social function, would be replaced by a fully developed individual for whom the various social functions represent alternating forms of his activities' [ibid., pp. 511–12].

So it appears that not only will the combination of manufacturing labour with education prove to be a means of creating all-round developed people, but that it will also mean that the type of person who will be required to work in this highly developed manufacturing process, will differ substantially from the type of person who used to be the product of production work during the early period of capitalist
development. In this respect the end of the capitalist period presents a striking antithesis to its beginning. If in the beginning the individual was transformed into a fraction, into the executor of a fractional function, into a live extension of the machine, then at the end of it, the very requirements of manufacturing require an all-round developed, flexible person, who would be capable of changing the forms of work, and of organizing the production process and controlling it.

No matter which one of the individual features which characterize the human psychological type during either the early or the late periods of the development of capitalism we select, everywhere we will encounter a double meaning and a double character of each critical feature. The source of the degradation of the personality in the capitalist form of manufacturing, also contains within itself the potential for an infinite growth of personality.

To provide an example, let us conclude by examining labour situations where both sexes and all ages have to work together. 'The composition of the whole staff of employees from persons of both sexes and all ages . . .', says Marx, 'must, on the contrary, under appropriate circumstances, turn into a source of humane development' [ibid., p. 514].

From this it can be seen that the growth of large scale industry contains within itself hidden potential for the development of the human personality and that it is only the capitalist form of organization of the industrial process which is responsible for the fact that all these forces exert a one-sided and crippling influence, which retards personal development.

In one of his early works, Marx says that if psychology wishes to become a really meaningful science, it will have to learn to read the history book of material industry which embodies 'the essential powers of man', and which itself is a concrete embodiment of human psychology. As it happens, the whole internal tragedy of capitalism consists in the fact that at the time when this objective, i.e. thing-orientated, psychology of man, which contained within itself infinite potential for mastery over nature and development of his own nature, was growing at a fast pace, his actual spiritual life was degrading and went through the process which Engels so graphically depicts as the crippling of man.

But the essence of this whole matter consists of the fact that this double influence of factors inherent in large scale industry on human personal development, this internal contradiction of the capitalist system, cannot be resolved without the destruction of the capitalist system of organization of industry. In this sense, the partial contradiction which we have already mentioned, between the growing power of man and his degradation which is growing in parallel, between his increasing mastery over nature and freedom on the one hand, and his slavery and the growing dependence on things produced by him, on the other - we wish to reiterate that this contradiction represents only one part of a much more general and all-encompassing contradiction which lies at the base of the whole capitalist system. This general contradiction between the development of the production forces and the social order which was in correspondence with the level of development of these production forces, is being
resolved by the socialist revolution and a transition to a new social order and a new form of organization of social relationships.

Alongside this process, a change in the human personality and an alteration of man himself must inevitably take place. This alteration has three basic roots. The first of these consists of the very fact of the destruction of the capitalist forms of organization and production and the forms of human social and spiritual life which will rise on their foundation. Along with the withering away of the capitalist order, all the forces which oppress man and which cause him to become enslaved by machines and which interfere with his free development will also fall away, disappear and be destroyed. Along with the liberation of the many millions of human beings from suppression, will come the liberation of the human personality from its fetters which curb its development. This is the first source – the liberation of man.

The second source from which springs the alteration of man resides in fact that at the same time as the old fetters disappear, an enormous positive potential present in large scale industry, the ever growing power of humans over nature, will be liberated and become operative. All the features discussed above, the most shining example being the entirely new form of creating a future based on the combination of physical and intellectual work, will lose their dual character and will change the course of their influence in a fundamental way. Whereas earlier, their actions were directed against people, now they begin to work for their sake. From their previous role as obstacles, they now turn into powerful moving forces of the development of human personality.

Finally, the third source which initiates the alteration of man is change in the very social relationships between persons. If the relationships between people undergo a change, then along with them the ideas, standards of behaviour, requirements and tastes are also bound to change. As has been ascertained by psychological research, the human personality is formed basically under the influence of social relations, i.e. the system which it is a part of, from the earliest childhood onward. 'My relationship to my environment', says Marx, 'is my consciousness.' A fundamental change of the whole system of these relationships which man is a part of, will also inevitably lead to a change in consciousness, a change in man's whole behaviour.

It is education which should play the central role in the transformation of man – this road of conscious social formation of new generations, the basic form to alter the historical human type. New generations and new forms of their education represent the main route which history will follow whilst creating the new type of man. In this sense, the role of social and polytechnical education is extraordinarily important. As it happens, the basic ideas which underpin polytechnical education, consist of an attempt to overcome the division between physical and intellectual work and to reunite thinking and work which have been torn asunder during the process of capitalist development.

According to Marx, polytechnical education provides familiarity with the general scientific principles of all the production processes and, at the same time, it teaches children and adolescents practical skills which makes it possible for them to operate basic tools used in all industries. Krupskaja formulates this idea in the following way:
A polytechnical school can be distinguished from a trade school by the fact that it focuses on the interpretation of work processes, on the development of the ability to unify theory and practice and in the ability to understand the interdependence of certain phenomena, whereas the centre of gravity in a trade school is directed toward providing the pupils with labour skills.9

Collectivism, the unification of intellectual and physical labour, a change in the relationships between the sexes, the abolition of the gap between physical and intellectual development, these are the key aspects of that alteration of man which is the subject of our discussion. And the result of achieving this, the crowning glory of this whole process of transforming human nature, should be the appearance of this higher form of human freedom which Marx describes in the following way: 'Only in community [with others has each] individual the means of cultivating his gifts in all directions: only in community therefore, is personal freedom possible.'10 Just like all human society, the individual personality must make this leap forward from the realm of necessity to the sphere of freedom, as described by Engels.

Whenever the alteration of man and the creation of a new, higher level of human personality and conduct is under discussion, it is inevitable that ideas about a new type of human being connected with Nietzsche's theory of the superman are mentioned. Proceeding from the perfectly true assumption that evolution did not stop with man and that the modern type of human being represents nothing more than a bridge, a transitional form leading to a higher type, that evolution did not exhaust its possibilities when it created man and that the modern type of personality is not the highest achievement and the last word in the process of development, Nietzsche concluded that a new creature can arise during the process of evolution, a superman, who will have the same relation to contemporary man, as contemporary man has to the ape.

However, Nietzsche imagined that the development of this higher type of man was subject to the same law of biological evolution, the struggle for life and selection based on the survival of the fittest, which prevails in the animal world. It is for this reason that the ideal of power, the self assertion of the human personality in all the fullness of its instinctive power and ambition, rugged individualism and outstanding men and women, formed, according to Nietzsche, the road to the creation of a superman.

This theory is erroneous, because it ignores the fact that the laws of historical evolution of man differ fundamentally from the laws of biological evolution and that the basic difference between these two processes consists of the fact that a human being evolves and develops as a historical, social being. Only a raising of all of humanity to a higher level in social life, the liberation of all of humanity, can lead to the formation of a new type of man.

However, this change in human behaviour, this change of the human personality, must inevitably lead to further evolution of man and to the alteration of the biological type of man. Having mastered the processes which determine his own nature, man who
is struggling with old age and diseases, undoubtedly will rise to a higher level and transform the very biological organization of human beings. But this is the source of the greatest historical paradox of human development, that this biological transformation of the human type which is mainly achieved through science, social education and the rationalization of the entire way of life, does not represent a prerequisite, but instead is a result of the social liberation of man.

In this sense Engels, who had examined the process of evolution from the ape to man, said that it is labour which created man.\(^1\) Proceeding from this, one could say that new forms of labour will create the new man and that this new man will resemble the old kind of man, 'the old Adam', in name only, in the same way as, according to Spinoza's great statement, a dog, the barking animal, resembles the heavenly constellation Dog.\(^2\)

**Notes**

First published as Vygotsky, L. 1930: Socialisticheskaja peredelka cheloveka. VARNITSO, 3, 36–44. VARNITSO was the journal of the All-Union Association of Workers in Science and Technics for the Furthering of the Socialist Edification in the USSR (Vsesojuznaja Assotsiatsija Rabotnikov Nauki i Tekhniki dlja Sodejstvija Socialisticheskому Strоitel'ству v SSSR). Somehow, the paper was published under Vygotsky's original name, i.e. spelled with 'd'.

1. Probably refers to Plekhanov, G. V. 1922: Ocherki po istorii materializma. Moscow.
3. It is unclear to which book Vygotsky is referring.
5. Similar passages can be found all over Marx's and Engels' works, but this exact passage we haven't been able to locate.
7. 'We see how the history of industry and the established objective existence of industry are the open book of man's essential powers, the perceptibly existing human psychology...a psychology for which this book, the part of history existing in the most perceptible and accessible form, remains a closed book, cannot become a genuine, comprehensive and real science.' See pp. 302–03 of Marx – Engels Collected Works. Vol. 3: Economic and Philosophical Manuscripts. New York: International Publishers (1975).
12 One of Vygotsky’s favourite quotations from Spinoza’s The Ethics. See p. 61 of Spinoza, B. de 1677/1955: On the improvement of the understanding. The ethics. Correspondence. New York: Dover. ‘The old Adam’ may be an implicit reference to Marx’s (1890/1962, p. 118) use of this expression.