

## **Simmel on Culture and Technology \***

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In the thought of Georg Simmel we find specific references to the subject of modern science and technology in industrial and metropolitan society which are ahead of their time, even if in embryonic form. However, this fact has not been recognized, and a deeper analysis of Simmel's work is missing both from currently influential social studies of technology and from philosophical investigations and meditations on technology in recent decades.

The principal object of this essay is to fill that gap. Beginning with an overview of the underlying theoretical approach, it goes on to expound their main interpretations of technology, and draws attention to the strong resonance which can be detected in the cultural counter-currents that emerged over the course of the 20th century in critiques of the technological society.

An examination of his work in the light of the whole technology debate leads us to two overriding convictions: firstly, that Simmel was one of the first thinkers, either in philosophy or sociology, to regard technology and technicity as a key phenomenon; secondly, that his insights on modernity as a scientific and technological era are not just penetrating, but left a legacy of interpretations and critiques which became clearly identifiable much later on. It is understandable that there should be serious limitations in the arguments which Simmel developed on technology over a century ago: in particular, we should not expect to find him dealing with many of the major challenges facing modern-day thinkers. But the theory of culture which he built over the course of his lifetime's work, his scepticism in relation to the ideology of progress, the distance he put between himself and the historicist and scientific approaches, the coherence of the position he took between that critical distance and his understanding of sociology as social science, the picture he painted of man's relationship to the world in modern society, his analysis of money as a medium of exchange and his commitment to a particular view of life and human relationships, contain far-reaching attitudes on the social and axiological meaning of modern technology and its self-governing momentum, the phenomenology of instrumentalization, and the processes of objectification (*Entäusserung*), alienation (*Entfremdung*) and reification (*Verdinglichung*).

This essay is divided into four parts: Part One contains a summary of sociological thought on technology in Simmel's time, providing the basis for the argument that he was a pioneer in this field. Part Two develops the connection between key elements of his epistemology for understanding society and the way in which, using money as an example, he interpreted exchange by means of objects or artefacts. Part Three shows how Simmel understood the phenomenon of technology as a cultural system. Finally Part Four rebuilds his *Zeitdiagnostik* and the visionary arguments he developed in favour of the theory of autonomous technology. The underlying principle of this work of theoretical analysis is the idea that the Simmelian legacy of the study of the dawn of modernity and of the growth of science and technology demands of us today less of an effort to reconstitute it (which is an impossible task) and more a job of rigorous but unambiguously inventive interpretation. The attempt to avoid tergiversation of his original meaning should not prevent us from matching up our addressing of the issues with the need for a new focus based on the times we live in today.

### **Simmel as a pioneer in critical thinking on technology**

Simmel's insights on technology are uniquely farsighted; within the disciplines of sociology and social theory, he first instigated critical thinking on this subject and on scientific and technological civilization. The same goes for philosophy and the humanities, as already observed above. Of course technology has always been present in modern thought, but ideas about what we may call the *problem of technology* remained hidden, at least until the generation

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of social theorists which emerged at the end of the 19th and the beginning of the 20th century. In effect, during the formative years of the modern era, in which, through rationality, the physical and natural sciences became closely entwined with the spirit of invention and the complex organization of work, emerging sociology, the study of social facts as unique phenomena, subscribed enthusiastically to the objective of Western technological and industrial expansion. During this time, in the complex set of circumstances which provided the context for, and helped to form, progressive Western society, with its key moments in the English industrial revolution, the Enlightenment and the growing presence of science and technology in life's practical sphere, pioneers of sociology and thinkers like Saint-Simon, Comte, Cournot and Marx shared the same overall attitude: of confidence and willingness to countenance the possibility of directing the technological society by rational and scientific means, despite their significant differences in other aspects.

The scientific sphere to which these thinkers referred bore little or no resemblance to the uninterrupted movement of discovery and innovation associated with the dynamic social organization of science today. Its relationship with – or even the search for – economic rationality, bureaucratisation and the political and financial support of the State, although growing as far back as the second half of the 19th century, only reached its high point in the 20th century. These thinkers, who were encouraged by a spirit of confidence in the mental framework of science and technology, had no premonition of anything particularly problematical either in the singular nature of modern technology, nor in a project for society which also contained much that was singularly technological. Their vision of technology had a Promethean flavour to it, to borrow Hermínio Martins' classification, in which technology was emerging as the magnificent means of bringing about a swift and total improvement in the human condition, above all for the impoverished majority (1998: 150-181, *maxime* 151). Consequently, the general attitude from which these pioneering students of society started out led them away from the path of any clear, critical and differentiated enquiry which might directly question modern technology and the technological society, particularly in connection with problems as significant as its meaning for human culture and liberty.

In relation to Comtean positivism, as Juliette Grange (2000) has discussed, and as argued by Martins, such an assessment is not to be confused with the erroneous tendency to interpret it as the pure expression of theocracy or scientism, nor can it ignore the fact that the reflections of the inventor of the term sociology on the relationships between politics and science were of a philosophical nature – as moreover were those of Cournot and Marx. These (reflections) are today largely neglected, both in “scientific policy” circles and in political philosophy. Despite the fact that many of their conceptions have become obsolete, the ideas of these 19th century thinkers are completely contrary to a blind commitment to the industrial application of science or the affirmation of a technocracy of scientism, nor do they subscribe to or profess any enthusiasm for the utilitarian ethic. In the case of the founder of positivism – who is perhaps one of the writers who has most been subjected to superficial readings and misleading interpretations – science was not even thought of as having a practical nature or as aiming explicitly at any particular type of action.<sup>1</sup>

Sociology had already become an accepted independent discipline in the academic world in the closing years of the 19th century, at the same time as many of the organizational aspects of scientific and technological research had changed. These changes reflected an increasing division of labour, specialization and closer links to the economy, the State and war. In 1895 Émile Durkheim published *Les Règles de la Méthode Sociologique*, which preceded the start of publication of *L'Année Sociologique*, around which the French school of sociology was to be formed. The same year saw the founding of the sociology department at the University of Chicago, which began to publish the *American Journal of Sociology*. In the face of the complete novelties represented by experimental science, modern technology and scientific work organized on a scale sufficient to deal with universal history, the discipline of sociology, which

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<sup>1</sup> Comte's theory is not empirical, and his arguments always laid down a clear demarcation between the speculative nature of scientific knowledge and the nature of technical and practical knowledge. Comte's positivism tends to give ever-increasing room to rationality at the expense of an empirical approach to observed facts.

had meanwhile become established, persisted, with the important exception of the critical insights put forward by Simmel (and in a different sense also by Thorstein Veblen), in not attaching importance to the expansion of “objective culture” to the questioning of the “scientific-technological age”, to technological options and their relationship to patterns of social life and the axiological and normative standards which were then gaining ascendancy. The ideology of progress, in which society found its world-view, was broadly representative of a force which, being based both in culture and in values of social legitimacy, continued to show that it had the ability to bind together the economy, labour and technological change.

However, in that prelude to the 20th century, and particularly in the interval between the two world wars, a remarkable group of sociologists and social theorists began to understand the world which had begun in the preceding century and a half, and some of them were able to tie their questioning of the age to the nature and destiny of human beings. An opposition had emerged between the tendency towards the supposed perfectibility of society, as promised by the more utopian and historicist idealists who believed in progress, liberalism and socialism, and the contexts of alienation, indifference, calculability, mechanization and monetarization<sup>2</sup> which were beginning to assert themselves in the industrialized world and the world of the big cities. This was the intellectual backdrop against which writers in Europe and on the American continent adopted a critical distance from the naive optimism surrounding the Promethean ambition to become masters of Nature by means of technology and science, and from the path to power and material abundance taken by the Western world.

Science and technology appear in Simmel’s work in two ways. First in the explicit and incisive insights he presents in his famous study on money, especially in the final chapter. This material had been partially developed in 1889 for a Gustav Schmoller seminar on political economy. Secondly, in various relevant works and essays, written before and particularly after that work. These contain powerful and original ideas which had a decisive influence on conceptualising the modern period as a scientific and technological age. In this second case, we must clearly include the works in which he further develops, at great length, his theory of culture and his diagnosis of modern society. Simmel argues that human culture is expressed in two fundamentally opposing ways – objective culture and subjective culture – following the formative ideal derived from Herder, Humboldt and Hegel. He places science and technology in the former, together with other forms of human cultural achievement. In so far as those two concepts play a key role in his thoughts on human culture and on the study of the modern world, his studies on culture implicitly invoke and give immediacy to the phenomenon of technology. Much of what Simmel discusses in relation to the sphere of culture can be extended to embrace the investigation of technology as well.

Simmel’s most significant texts on culture, which are relevant for the field we are looking at, include his notes on the problem of the division of labour in his first major work, *On Social Differentiation* (1890), which contains a number of references to issues he would raise in his later works, his famous and incisive essay on life in the big cities, “The Metropolis and the Mental Life” (1903), the cycle which makes up *Schopenhauer and Nietzsche*, (1907), the articles “On the Essence of Culture,” “The Future of Our Culture,” “The Concept and the Tragedy of Culture” and “The Conflict of Culture,” his last essay, published between 1917 and 1919. There are also some very original notes on the relationship between culture, technology and gender in the studies “Masculine and Feminine” and “Female Culture.” In all his work we can recognize observations which, in the broad sense of the word, refer to the technicity of modern life. It is not therefore just the brilliant explicit insights developed by Simmel in the final chapter of *The Philosophy of Money* (1997) which establish him as one of the pioneering researchers into the relationship between technicity and the nature of modern life and, in social theory, as we argue here, as the first theorist to formulate the idea of autonomous technology. Nevertheless it is true that the broader scope of his study of money provides us with a more solid and richer insight into the shades of critical Simmelian understanding of modern culture and technological determinism. That is why this final chapter merits very special attention.

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<sup>2</sup> “Monetarization” or “monetarized” is used in this essay as the extension of the money economy to social relationships, freedom, culture and human lifestyle. It has no relation with the concept of monetarism in economics.

After the Second World War, Simmel's influence was not as strong, either in Germany or in the USA, as that which he had had during his lifetime. Having been born in the same year as Durkheim (1858) and being only just a bit older than Weber (born in 1864), his later influence on intellectual life was much less significant than theirs. But in his time, and despite the fact that he only acquired a sociology professorship at the age of 56, four years before he died, and in a peripheral university (Strasbourg), due to the anti-Semitism which blocked his path to the top, he played a very important role in the establishment of sociology as an independent discipline and was of extraordinary significance in sociological and philosophical thought in the period prior to the First World War. Simmel's importance for German sociology is far-reaching. He gave the first courses in the new discipline in Berlin, between the mid-1890s and 1918, when sociology chairs were finally established in the German universities.<sup>3</sup>

The contrast between the first fifty years of the 20th century – with the economic crash, two world wars, major revolutions followed or preceded by civil wars, fascism and Stalinism in the central countries, the detonation of atomic weapons – and the wide-ranging aspirations contained in the outlines of ideal societies, which featured technological utopianism or in which technological progress played a crucial role (Martins, 2000), contributed to a situation in which some thinkers began to question science, modern technology and the ideology of progress. In this context, some influential social thinkers in the first half of the 20th century, following on after Simmel's insights, in particular Max Weber, Max Scheler, Lewis Mumford, Harold Innis (who was a member of the Chicago School before moving to Toronto), distanced themselves profoundly from the major modern world visions involving the expansion of technology and industry, and from the critique of the pre-eminent scientism of the philosophical and sociological environment of their period, trends which were accompanied in political theory by Hannah Arendt and Eric Voegelin. At the same time, they studied several of the key categories of modern thought, not as emancipatory phenomena, but as conduits for the rise of impersonal powers and for the bureaucratisation associated with the paradoxes of modern rationalization.

The in-depth questioning of the foundations of the modern world and the role of technology generated continuous examination in that period involving other thinkers, particularly Husserl (who corresponded with Simmel), Jaspers, Heidegger, Ortega y Gasset (who was his pupil, and espoused almost word-for-word several of Simmel's perceptions in his *Meditación de la Técnica* (1939) [*Meditation on Technics*]), Blumenberg in philosophy, and Horkheimer, Adorno and Marcuse in social theory. Other thinkers who devoted a great deal of attention to this subject, such as Franz Borkenau, Jacques Ellul, Georges Friedmann and George Parkin Grant, remained as neglected as their research was original. Essayists and activists of diverse origins and as different as Manfred Schröter, Albert Schweitzer, George Sorel, Oswald Spengler, Ernst Jünger and Günther Anders, the British historian Arnold Toynbee and the French philosopher and scientific historian Alexandre Koyré, and the Swiss architect Siegfried Gideon were also compellingly aware of these issues.

Weber is without a doubt the thinker most often generally associated with the significant period in the first decades of the 20th century of reflection on modernity and investigation of the rationalization associated with science and technology. Although it makes some sense, this identification is not wholly correct, precisely because it does not do justice to Simmel, the writer who provided many of the original sources for that field of thought.<sup>4</sup> In fact it was only much later that sociology and philosophy came to recognize the significance of Simmel's

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<sup>3</sup> He was an influence on major figures of Durkheim's circle such as Célestin Bouglé, and wrote the second article in the first issue of *L'Année Sociologique*. His thought had a major influence in North America as sociology became established in the universities, particularly in the Chicago School, through Robert Park, his former pupil in Berlin. Albion Small was instrumental in having many of his essays translated and published in the *American Journal of Sociology* (Frisby, 2002).

<sup>4</sup> In this context we should mention the recent study by Lawrence T. Nichols (2001), who in tries to clarify, in the context of a profound concern with the relationship between scientific paradigms and the contexts of organizational culture in the academic world, the "situational imperative" which led Parsons to settle at Harvard and to destroy an entire chapter of *The Structure of Social Action* – his first major work – dedicated precisely to Simmel's conception of sociology, at a time when he needed a positive opinion from key decision-makers in the university.

*Zeitdiagnostik*, encouraged by the renewed interest in his thought since the 1980's<sup>5</sup>. But no words carry more authority and eloquence on this subject than those written by Jürgen Habermas: “Social theories which are constructed as diagnosis of the times, and that – originating in Weber – lead, on the one hand, via Lukács to Horkheimer and Adorno, and on the other hand, via Freyer to Arnold Gehlen and Helmut Schelsky, all draw from the reservoir of the Simmelian philosophy of culture. In his famous ‘intermediate reflections’, ‘Religious Rejections of the world and Their Directions’, Weber developed a paradox of rationalization on the basis of the neo-Kantian elements of the Simmelian diagnosis, specifically the potential for conflict in stubbornly differentiated value-spheres and social orders.” (1996: 410-11).

Many of his concepts and observations allow us to get a closer understanding of the theories and issues relevant to the debate on the technological mass society after his time, such as the importance of instrumental mediation, the definition of the problem of technology, the money economy and people's life-styles, the phenomenon of levelling and consumerism, cultural alienation, rationality, commensurability and the separation of the means and ends of human action, the acceleration of the modern world, the relationship between the scientific and technological era and metropolitan life, the absence of essence or specificity as regards the world (as evidenced in his famous concept of the *blasé*). To this significant range of aspects we must also add Simmel's anticipation of many of the approaches of phenomenology itself in relation to our experience of daily life mediated by “the technics of practical life,” to use one of his concepts to describe money, as well as our relationship with time and space, as so forcefully seen in *Philosophy of Money* and in his short piece “The Adventure.”

It can be objected that Simmel did not devote any specific work to technology. But the development and implications of modern science and technicity are of outstanding significance in many of his core works, in so far as he saw them as an integral and characteristic element of modern culture which expands into the spheres of religion and art, urban life and the economy. In this sense the remarks which Julien Freund, that acute interpreter of Weber, made about the latter in an identical context apply equally to Simmel. After drawing attention to the apparent contradiction whereby Weber was one of those modern sociologists who most emphasized the crucial role of technology, and how it is possible to find this idea on “almost every page of his sociological writings” (1998: 279), even though no single work of his was devoted to dealing with the subject, Freund goes on to say: “Actually, if Weber did not deem it advisable to devote a special study to technique, it was because he found technique everywhere in the course of his investigations” (*idem*).

### **Epistemology and instrumental mediation**

Simmel's original contribution to the topic of technology lies in a theory of culture which has far-reaching implications. The significance he attributes to culture is indissolubly linked to an original epistemological position in relation to sociological analysis, and this is expressed in the prominence accorded to the plane of subjective experience and to the way in which it is transferred to social and material dynamics as a whole. In Simmel's ability to meditate on all facets of life and above all on intimate things, we can recognize, to second Ortega y Gasset, the *raison d'être* of a project which seeks transcendent categories of human life even in the simple handle of a jug, and a Spinozist tendency, present throughout his work, which made him think that any point of reality is a form of the universe and contains within it all the principles of the structure of the universe (1983: 137).

Ten years before the publication of his study on money Simmel, in *On Social Differentiation*, in which he deals with the process of differentiation and the development of human individuation, an issue which Durkheim and Tönnies also addressed at the time,

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<sup>5</sup> See Oakes (1980, 1984), Aron (1981), Freund (1981), Levine (1985), Watier (1986, 2000), Liebersohn (1988), Jankélévitch (1988), Léger (1989), Frisby (1992, 2002), Poggi (1993), Weinstein and Weinstein (1993), Vandenberghe (1997, 2002) and Leck (2002).

formulated for the first time a theory of the rational objectivity of culture which was to be the seed for his theory of the tragedy of culture. One of the most authoritative interpreters of Simmel, David Frisby, emphasizes this and shows how, in that work, Simmel was already putting forward the idea that institutions and intensely meaningful forms of life were being replaced by others which, in themselves seemed to be completely mechanical, external and mindless (2002: 76-93, *maxime*: 88). Simmel regarded these changes as a particular expression of cultural life, and added that people tended no longer to adopt grand ideas, citing as examples the figure of the modern soldier by comparison with the medieval knight, or the worker with the artisan. Increasing complexity also makes it more difficult for individuals to absorb a highly unifying concept. The differentiation which separates out the intellectual element of a particular activity meant that its mechanical and intellectual aspects acquired separate existences. Such would be the case, for example, of the appropriation of the intellectual element of an embroiderer's activity by an embroidery machine. The activity of such a worker would become much more mindless after its mechanical objectification. Social institutions, orders and associations therefore tend to become more mechanical and external and no longer assist the progress of culture (*ibid.*).

Simmel defined culture on many occasions. The following excerpt is among those which best illustrate the point: "Culture can be regarded as the perfection of individuals achieved as a result of the objectified spirit at work in the history of the species. Subjective being appears as cultured in its unity and totality by virtue of the fact that it is consummated in the acquisition of objective values: the values of morality and knowledge, art and religion, social formations and expressive forms of the inner life. Thus culture is a distinctive synthesis of the subjective and the objective spirit. Its ultimate purpose, of course, can lie only in the enrichment of individuals." (1984: 65). The cultural process takes place therefore in a framework of a basic dualism in human beings. On the one hand, the objective mind is derived from the objectifications into which human beings crystallise the subjective elements of their life; on the other hand, and in an opposite sense, the subjective mind arises from the configuration which ascends from nature towards culture and which seeks the nobility of individual life. Subjectivity and objectivity, inwardness and outwardness are the manifestations of a wound which cannot be healed, although it is open to infinite movement which, while involving a search for underlying unity, does not completely solve the problem of identity. It is this movement of dual postulation, seeking human identity in the search for unity, which represents the two-way flow between being and becoming, which weaves and interweaves the manifoldness of the human situation in the world. Along these lines, subjective culture and objective culture are at once derivations and expressions of the autonomous relationship between life and form.<sup>6</sup>

Simmel was always concerned, as Max Weber was repeatedly to be, with the fact that modernity was increasingly characterised by technicity, in the sense of a type of action governed by a lack of specificity, and by formal and objective methods of administration through calculation and control, quantification and impersonality. This interpretative approach was to be the key concept in *Philosophy of Money*, the first major work in which he moves away from the general abstractions of a theory of culture and towards the analysis of the social meaning of money and the relevance of its mediating role for the cultural environment in which it circulates and which it has helped to create. Money had already attracted the attention of Marx – not so much perhaps in *Das Kapital* but rather in his long manuscript draft of 1857-1858, the *Grundrisse*, in one of the chapters which is open to a broader interpretation by comparison to the former, in the

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<sup>6</sup> Simmel's interpretation of sociology seeks to explain "forms of sociation" (such as subordination, conflict, competition, mimicry, the division of labour) as self-constituting elements of society, and contents (such as interests, inclinations, desires, impulses, goals and psychic states). From his first to last, posthumously published work, *Lebensanschauung*, the idea of life was a permanent obsession of Simmel's.

He interpreted it both as objectivity without conscience (*Zôê*, in Greek, *Leben*, in German), and as subjective life experience (*Bios*, in Greek, *Erleben*, in German). His insistence on thinking in terms of dualist, relational, procedural, fluid and metaphysical categories is strongly tied to his vitalistic understanding of life as life movement. Subjective experience of life is seen as creative movement and open to unity which presupposes an opposition between form and content. Life is accordingly a third element which contains the moving, tense and organizing dynamic of an opposition which makes an always awkward complementarity plausible.

sense that it goes beyond the relationship of capitalism and the question of value<sup>7</sup>. In its broader social role, money was the object *par excellence* which drove Simmel to carry out a philosophical and culturally-based study of modern society. *Philosophy of Money* is in fact a very long essay on society, culture and modern life, based on a meticulous metaphorical exploration of money as an instrumental *medium*. It has the size and scope of a treatise.

Simmel's starting point is the question of value, on which he is close to the neo-Kantian Baden school in finding the essence of money in the pure form of inter-permutation. On the one hand, this act incorporates that element or function of things through which they become economic objects and no longer express aspects of them, but become their totality. On the other hand, its meaning is played out in the change in value which attaches to things as a result of their being exchanged. The thoughts he develops on society as a whole flow in two main directions throughout an almost uninterrupted torrent of discourse. The first direction is based on an understanding of money as the product of objectification and autonomization of value. The second direction is derived through the presentation of money, in part, as the energizing force which produces reification of social relations and the transformation of the goals of action into means, associated with the logic of a certain individual liberation which it encourages (and which some of his commentators, as we shall see below, so often emphasize in isolation).

The Prologue to the *Philosophy of Money* sets out an overall interpretation of his original epistemology for sociology. That interpretation is a complete statement of the structuring intuitions of a "type of research" which brings out the meaning of culture and does not despatch mediation through objects or artefacts to some sort of "absolute indeterminism." On the contrary, it embodies a conscious and consistent attempt to illustrate the relationship-in-movement between means and social forms, an intuitive interpretation which is of enormous interest and originality for the study of instrumental mediation. With a style which aims to "probe, from the singular and the immediate, that which is simply given, the layer of ultimate spiritual meanings," to the elegant formulation found in the prologue to another work (*R*), his purpose is to evoke the variety of the movements which attract and repel, which are related to each other and which have explanatory power. It is in this way that he tries to "make the essence of money intelligible from the conditions and connections of life in general," on the one hand, and to "make the essence and organization of the latter intelligible from the effectiveness of money," on the other (*PM*: 54). Simmel emphasizes the self-propelling role of money as *medium*, which is part of the context of the intense contradiction between objective culture and subjective culture which is characteristic of modernity: "(...) Money is simply a means, a material or an example for the presentation of relations that exist between the most superficial, 'realistic' and fortuitous phenomena and the most idealized powers of existence, the most profound currents of individual life and history" (*PM*: 55). With this focus, Simmel seeks to accept the open and transitive process (*processus*) of life and to avoid any type of determinism or reductionism, whether it is economic, sociological or technological.<sup>8</sup>

Throughout his vast study on money, Simmel systematically reiterates the technicity of its scope in a way which is quite unusual in sociology. According to the definition he gives in the last part of this work, money is a *technique of practical life* (to use Bottomore and Frisby's translation, *PM*: 485). Perhaps it is permissible to say that, in his view, *money as medium* has a "mode of existence," to recall the expression used by Gilbert Simondon (1969) for technical objects, in the sense that a way of being in which men take part not just as users but as full participants is also found in their actual existence and in the objective movement of their mediating action, which is given tangible form through money. Money brings about, through its mediation, the conversion of the usage values of unique objects into replaceable values of exchange. Rather in the same way

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<sup>7</sup> In this respect it is also worth looking at *The Jewish Question* (1975), in which Marx pursues his critical orientation of the legal and political order in the name of the underlying economic reality.

<sup>8</sup> The following passage is equally illuminating: "Methodologically, this basic intention can be expressed in the following manner. The attempt is made to construct a new storey beneath historical materialism such that the explanatory value of the incorporation of economic life into the causes of intellectual culture is preserved, while these economic forms themselves are recognized as the result of more profound valuations and currents of psychological even metaphysical pre-conditions. For the practice of cognition this must develop in infinite reciprocity." (*PM*: 56).

that Simondon observed for technological systems, the logic of the monetary network driven by the circulation of money also establishes a mesh of connections, not only with objects but of man with himself, destined for an evolving connection with the very world which the money economy has created. Man, needing to intervene so that money exists, giving him in this process a protected and separate form of existence, sees himself as it were worked out by a system – in this case, the money economy – which retains but an echo of himself.

The autonomous motion of the circulation of money consists of a process which devalues the singular essence of each object with a view to its subsequent revaluation as money. This revaluation transforms the object into a devalued sign, in the sense that it is non-specific and quantitative. As Marx described in the *Grundrisse*, objects, which are converted into commodities through the action of money, are converted *pari passu* into money; money in turn undergoes a transmutation into all commodities. In the money chain, all the objects which are part of it take on the inessential form of merchandise or commodity. The circulation of objects made possible by the circulation of money implies that circulation itself becomes autonomous as a source of value.

For this reason Simmel, who starts out defining money as a medium, ends up seeing in money, in the final analysis, more than a medium of exchange, since the mediation of money underpins and ensures the operation of the whole system encompassed by monetarization. In imposing itself as an absolute code, the money medium establishes its own ends, it becomes autonomous, the mediating element becomes the key element. Hence the final description of money as “the means of means” (*PM*: 485), in an exploration of its mediating role which already contains the suggestion of an understanding of the process of commodification as the “political economy of the sign,” to recall the concept put forward by Jean Baudrillard (1981). However, that exploration, which is also metaphorical, does not imply a return to the idea of money as a mere symbol, as found in Locke and other 18th-century thinkers. Money as object does not therefore have a simple functional status or role-playing status. The concept which Simmel emphasizes in order to understand the dynamics which it imposes on society is without doubt that of money as a mediating instrument: money is the result and the driving force of a process of sequential changes taking place in economic forces, social needs and symbolic currents which continue to evolve, folding in onto themselves and repeating incessantly. What stands out in the course of his analysis is money as symbol, as money-sign, and its motion as “exchange-sign.”

The technicity involved in the mediation of modern society is a challenge which Simmel did not underestimate. Even if, as seems likely, he was not fully aware of many of the consequences of his intuition, it did not escape him that it was through that mediation that the joint evolution of the action of man and technology could be more closely intertwined and laden with implications. In the deeper summary analysis which he carried out in one of his last major essays, Simmel elucidates his ideas brilliantly when he talks of the importance of the “flow from subjects through objects to subjects, in which a metaphysical relationship between subject and object takes on historical reality” (*CTC*: 68). As we shall illustrate below, this approach enabled him to adopt an attitude which was quite unique in his time in relation to the study of the repercussions of money on the social world and to the phenomenological description of money economy in the conscience and on the life of the mind.

Ariel Morabia, in a note on the influence of Simmel’s concept of *diskrepanz* on Günther Anders’ phenomenology of technics, explains clearly that money is the “portent” and the “sign” of human action marked by the *décalage* between objective and cultural values. “It is from that gap, interpreted as the loss of meaning and as the nuclearization of the social sphere, that Simmel develops the idea of the ‘individual law’ as the ethical principle in which the individual alone is ‘the concrete agent of praxis’”<sup>9</sup> (Morabia, 2003: 169). One of the most powerful new voices commenting on Simmel, Frederick Vandenberghe, is absolutely right when he uses the jargon of sociology to state that, in the *Philosophy of Money*, Simmel on the one hand, in the

<sup>9</sup> Translated from the French: “C’est à partir de ce décalage, pense comme perte de signification et comme nucléarisation du social, que Simmel elabore la notion de ‘loi individuelle’ comme principe de l’éthique en ce que seul l’individu est ‘l’agent concret de la praxis’”

part which he calls analytical, “treats money as a dependent variable,” describing in that variable the “theoretical origin of money in terms of objectification and autonomization of value,”<sup>10</sup> while in the synthetic part, on the other hand, he treats it as “an independent variable,” examining “the consequences of universal monetarization in the light of the dialectics of liberation of the individual and the reification of social relations” (2002: 72)<sup>11</sup>.

In fact, Simmel concentrates on the way in which society and its system of economic exchanges affect and determine each other, and that system’s symbolic relevance emerges powerfully reinforced. The picture he draws is one of a winding process whereby, through the instrumental medium of money, which measures and calculates economic value, a fast medium which imposes its own velocity, the very habit of calculation, the idea of economic value, and acceleration, ended up invading people’s daily lives, becoming embedded in personal values, life-styles and social relations.<sup>12</sup> As an “independent variable” money shapes our experience of the world through its permanence or persistence over time in our underlying reality, the modality of technicized mediation which Don Ihde (1990) calls the “*background relation*.” Our experience with money leads to the relativity of economic objects embodied in it impregnating our very being, leading to increased rationalization and de-personalization in all areas of life. Together with his theory of culture, this type of conception gives Simmel a solid foundation for reflection on the uses and meanings of objects, the culture of commodities and human experience of reality through technicity. There is no doubt that this work is one of the antechambers of the critique of the modern world of the phenomenology of instrumentalization.

It was only much later that the path followed by Simmel in positioning a medium, an object or an artefact as “independent variables” attracted followers like Innis, Mumford and Norbert Elias. Innis (1971) pointed out the effect of communication technologies on social and historical change, including the train, as Marx had previously emphasized. Mumford (1934) stressed the importance of the watch as a key technological device for the creation of the world we live in now. Norbert Elias, in 1939, attributed civilizational significance to the most diverse tools of domestic existence, including utensils for slicing and holding foodstuffs, which he regarded as “an embodiment of historical situations and the structural regularities of society” (2000: 103). More recently, Langdon Winner, in “Do artefacts have politics?” (1986), had the merit of pointing out forcefully how politically relevant technology is and its relationship to social order.<sup>13</sup>

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<sup>10</sup> Translated from the French: “qui traite l’argent comme une variable dépendante” [...] “génése théorique de la monnaie en termes d’objectivation et d’autonomization de la valeur”.

<sup>11</sup> Translated from the French: “variable indépendante” [...] “les conséquences de la monétarisation universelle selon la dialectique de la libération de l’individu et de la réification des relations sociales”.

<sup>12</sup> This analytical approach, which clearly evokes and attaches value to the relationships, social meanings and spiritual meanings which the instrumentality of the mediums of objective culture open up and set in motion, seems to us to be in harmony with the importance of the concept of *Wechselwirkung* in his work, as is appropriately pointed out in an article by Christian Papilloud (2000). He draws attention to the composition of the word *Wechselwirkung*, *Wechsel* (change in the sense of *Tausch*, exchange) and *Wirkung* (effect), and its underlying theoretical tradition. Papilloud argues that the translation “interaction” or “reciprocal action,” which occurs in both French and English publications, is incorrect, and changes the meaning of Simmel’s thought.

According to Papilloud, the basic structure of the expression can be described as follows: “There is a movement of attraction and repulsion which achieves the effect and then changes, resulting in effects of crossed changes.” Taking this suggestion further, *Wechselwirkung* can be rendered in English as “effect(s) of change(s)” – the suggestion for the French is *effet(s) de changement(s)* – suggesting a process which by its own motion produces an effect, a change, brings about a change and presupposes an exchange, a swap (2000: 109). Without losing sight of the connection between the differing scope of objectivity and subjectivity in human and social action, it would seem that in the realm of sociology this is one of the most lucid and visionary approaches to an understanding of the forms of connection and transition in the open way in which life happens in a manner which makes us “think through an image” and which “guides the mind through that which moves and the movement itself” (*idem*: 111).

<sup>13</sup> In his many-faceted study Jared Diamond (1997) also highlights the role of objects, technics and natural elements, amongst other factors, in the creation of domains in certain key periods or episodes of world history. Historians such as F. Braudel and C. Cipolla also attributed major causal significance to these factors.

Simmel's study of money is not an analysis of its use or of the economic sphere, but rather of the relationship between the mind and the social world, in so far as this interaction is shaped by the *medium* of money, by its meanings and by the behaviours it gives rise to. Through the study of money, he offers us a masterly example of how to interrogate the world of objects which have increasingly come to envelop and connect human beings. Like an archaeologist, when confronted with the material nature of money, one sees in it merely the tip of an iceberg of trends and connections which are not just economic but also of the mind, having to do with life-styles and relationships with the world. His objective, as we shall see below, turns out to be not so much money itself, but rather the whole panorama, the specific world which the medium of money helped to create, in other words, modern culture, life – as a metaphysical category – in the technological society.

### **The factitious bias of human culture and inner technification: technology as relationship of the human being with the world**

It is precisely in the third and final chapter of *Philosophy of Money*, dedicated to the relationships between the money economy and “the style of life”, in particular in the second section, that we find Simmel's first major formulation of the theory of culture and his more explicit insights on science, technology and the technicity of modern life. It is also in this chapter that he shows himself to be one of the most far-sighted diagnosticians of the times and of the profound trends of the modern era. His analysis is so forceful that even today, after a hundred years, we may consider him our contemporary in many respects. Once again, Habermas is clear on this aspect: “I think that Simmel owes his astonishing, although often anonymous, impact to the diagnosis of the times, founded on the philosophy of culture, that he first developed in the final chapter of *The Philosophy of Money*.” (1996: 408).

His unfolding of the theory of culture follows the lines already glimpsed above. The relationship of discrepancy between objective and subjective culture becomes the definitive issue (*PM*: 450). The distinguishing feature of modern society is the increasing distance between those two cultural forms: “If one compares our culture with that of a hundred years ago, then one may surely say – subject to many individual exceptions – that the things that determine and surround our lives, such as tools, means of transport, the products of science, technology and art, are extremely refined. Yet individual culture, at least in the higher strata, has not progressed at all to the same extent; indeed, it has even frequently declined. This does not need to be shown in detail.” (*PM*: 448). In order to eliminate all doubts, he reinforces his verdict: “The fact that machinery has become so much more sophisticated than the worker is part of this same process” (*PM*: 448-449).

From this position, he develops an argument which stresses the discrepancy between operational/instrumental knowledge and the wisdom which is found in the ethical sphere. This is moreover an issue of which he never lost sight in the whole of his work, although it remains greatly neglected, as already mentioned, in the writings of many of those who have sought to interpret him. He launches this discussion from a rhetorical question which he formulates to demonstrate the phenomenological intuition that modern culture runs the risk of giving up an understanding of that which it is capable of doing: “How many workers are there today, even within large-scale industry, who are able to understand the machine with which they work, that is the mental effort invested in it?” (*PM*: 449) And that which occurs in industry also occurs in many other areas. It is precisely in the reasoning which Simmel puts forward for this phenomenon that his position becomes clear regarding the historical and philosophical origins of the problems relating to the predominance of objective culture and technicity in the emergence of the modern world. Contrary to that which would become Spengler's thesis less than 20 years later, and subsequently those of Jünger and Heidegger, Simmel was not hostile to modern democratic and liberal institutions. He did not situate the problem of technology in the worlds of Athens and Jerusalem nor with the Enlightenment, as did Horkheimer and Adorno,

and he even saw in the capsizing of its *paideia*<sup>14</sup> a backward step in the confrontation with objectification and alienation.

Strictly speaking, Simmel starts out by stating, in this respect, that “the preponderance of objective over subjective culture that developed during the nineteenth century is reflected partly in the fact that the eighteenth century pedagogic ideal was focused upon the formation of man, that is upon a personal internal value, which was replaced during the nineteenth century, however, by the concept of ‘education’ in the sense of a body of objective knowledge and behavioural patterns. This discrepancy seems to widen steadily” (*ibid.*). In order to understand this situation, Simmel first places the subjective mind on the plane of ethical action and embarks on a digression to ancient Greece and Plato’s *Phaedrus*. Following Plato, he does not place the origin of “the pure essence, the absolute significance, of worldly objects” in experience, but rather in an “epistemological attitude of the mind”: “Whether we interpret our cognition as a direct result of external objects or as a purely internal process [...] we always conceive of our thought – to the extent that it is accepted as the truth – as the fulfilment of an objective demand, the reproduction of an imaginary model” (*PM*: 450). From here it follows that, in the practice of day-to-day life or in the highest realms of mental life, our actions presuppose the existence of a “cognitive ideal”, of a “formula of our life as a whole” (*PM*: 451).

The specific form of that ideal of knowledge, which confronts our actual knowledge as a standard, or totality, corresponds to an identical relationship between individuals’ moral values and prescriptions and their actual behaviour. Simmel sees this specific form of existence of an ideal of knowledge as being the crux of the “ethical realm”, to use his own phrase, which makes us “more aware of the fact that our behaviour corresponds well or badly to an intrinsically valid norm” (*PM*: 451). It seems fairly clear therefore that he comes close to an ontological, but not totalising concept of that ethical domain: “This norm – which may differ in its content for different people and for different periods of their lives – is not to be found in time and space, nor does it coincide with moral awareness, which is instead conscious of being dependent upon that norm” (*ibid.*). In line with this interpretation, it is a distinctive feature of the human will that it be guided by an “ideal programme” and, more than this, that it should be the actualisation of a “pre-figured possibility” contained in a “wealth of possibilities” (*PM*: 451). Each fragment of our practical existence has a meaning and cohesiveness as partial realization of a whole. It is in this way that individuals, from an epistemological point of view, deduce the contents of their lives from a “realm of objectively valid entities” and that we obtain those contents of our lives which keep “the stock of accumulated mental labour of the species” (*PM*: 452).

In a second stage of his thesis Simmel puts forward the concept that the cultural forms involved in the objectification of life tend to become separated from their content by virtue of their own movement. In societies undergoing ever more complex changes in connections and interactions in order to achieve the goals they pursue, culture is characterized by an extreme hiatus between the life which seeks to express itself outwardly in forms which embody the objective culture, and the intellectual and spiritual forms which make up the subjective culture, and which take it into the domain of values and universality. The objective world then acquires independence in relation to the human activity which produced it. As soon as human beings start to consolidate cultural forms in a methodical and concrete manner, these forms tend to become autonomous and definitive. “The objectification of the mind provides the form that makes the conservation and accumulation of mental labour possible; it is the most significant and most far-reaching of the historical categories of mankind” (*PM*: 453). Forms become disconnected from their ends and follow their own course. Cultural contents become independent of the subjective process from which they arose. This necessary condition for the very development of the subject may, however, clash with the subject itself. The objectification of the world contains the seed of the objectification of the mind. Modern culture, which always falls within that dualism, undergoes a tragic paroxysm dictated to it by the excessive growth of the objective culture and the contraction of the subjective culture. Man faces the threat of being subjugated by the very objects he has himself created. In giving rise to a world which has such a profusion of

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<sup>14</sup> This concept is used here not in the restricted sense of its Greek origin, as training of the young person, but in the broader sense suggested by Werner Jaeger, as a constituent process of a new *anthropos*.

objectification, human beings often tend to lose sight of the goals which give meaning and significance to their means. As we can see, the affirmation of an increasingly relational, multi-centred, sub-divided and networked world, subject to impersonal, calculating and objectifying forces and, at the same time, to the temptation of subjectivity and a more intense emotional life, which Simmel saw in front of him and which drove him to his observations of it, did not lead him to disconnect from the tradition of universalism, totality, objectivity and the individual subject. Simmel did not embrace the narrow dichotomous framework of many interpretations of universalism.

It is on the basis of the objective world's confrontation with that frame of reference made up of ideal, non-monetarized values, and the fragmented life of each individual, that he defines the concept of style of life. Thus the life-style of a community depends on the relationship between objectified culture and the culture of subjects (*ibid.*). It is as a function of the developing equilibrium in the chiasmic structure of human culture that we should determine the life-style of a society. According to Simmel, as the number of intermediate connections of all types grows in a society, the stronger will the tendency be for the discrepant relationship between objective culture and subjective culture to lean in the direction of greater objectification, with the cultural process separating from its content and the culture of things overcoming the subjective culture. It becomes clear that the function of the concept of objectification, in Simmel's thought, is to analyse the specific nature of the modern world.

Simmel starts by finding the deep reasons for the tendency towards extreme objectification of culture in "the significance of numerical factors" (*ibid.*). In smaller spheres, objective and subjective culture practically coincide. But if you raise the cultural level to a point at which its growth equals that of a numerical sphere, then the objective and subjective cultures tend to start to diverge. In modern society, this phenomenon is seen at its strongest in the form of the division of labour, in both production and consumption, although it had already been clearly seen in a different form in ancient Athens. In the modern period, the strength of the way in which numerical factors develop as the division of labour has as its consequence the separation of "the working person from the work produced and endows the product with objective independence" (*PM*: 457).

Simmel again mentions ancient Greece, this time to show how the concentration of that society encouraged the separation of the subjective and the objective, which was expressed in the "philosophy at its peak" (*PM*: 453). However, according to this argument, the "golden age of Athens" was able to avoid this error of separation of objective culture from the subjective (*ibid.*). Simmel's judgement on this issue should be regarded as very well-founded. In a significant subsequent work, *Schopenhauer and Nietzsche*, he was able to go into greater depth on the consequences of the unceasing complexity encouraged by the many intermediations involved in the numerical growth of civilizations and cultures which he described as mature. In that work, he argues that the combination of the various practical activities available to human beings in those societies tended to make them confuse means and ends. The endless prolongation of finalities transforms human existence into a succession of fragments and small pieces of things which thereby become the object of technicized action. As a result, men lose sight of the *telos* which gives meaning to human action. This situation gave rise to philosophical and religious systems which could direct men's hearts to ultimate values and to an overall vision of the world.

According to Simmel, the philosophy of Socrates and Plato, with its requirement that morality should always be the horizon for all human action, together with the advent and expansion of Christianity, were the answer to man's anguish at the loss of finality at the time of the crisis of Antiquity. They carried a message of salvation and the expectation of achieving it. This was the axial age, to adopt the term Jaspers was to suggest and which Mumford would later turn into a key concept. It guided human action up to the time when there was a loss of vitality or a breaking of the tension, to use Weber's term, in the grandiose *pathos* of the Christian ethic, as the 19th century progressed. The expansion of the division of labour and its increasing specialization, the infinite growth of objective culture and the explosive proliferation of commercial objects, the ethical vacuum of a culture impregnated by the indiscriminate objectivity of money now drove the soul to aspire to an absolute finality in life. However, this is not in harmony with the absence of a fixed essence in modern capitalist society which is

technicized and mega-urbanized. The quantified, psycho-intellectualist, discoloured and inessential aspects of life overcome those deeper and higher internal human values. In this assessment Simmel, like Durkheim and Weber after him, takes up the topic of the group of thinkers who not committed to irreligion in the previous century, who debated the consequences of the difficulties which the Enlightenment faced in creating convictions to take over the whole of earlier religious faith. Through Hegel, as Dorinda Outram reminds us, German thought started to raise this issue very early on. In this current of thought, the Enlightenment is seen as “an uncompleted project for intellectual and spiritual freedom”, offering an image of man “which emphasised human autonomy and self-sufficiency” and catches him “in his own solipsism, unable to judge himself aright, or to form non-utilitarian ties to other human beings” (1995: 33).

The transformation of objective culture into the final purpose of human action leads to the atrophy of the subjective mind, by subordinating the meaning of human life to the predominance of just one of the aspects of its way of being over the others. In Simmel’s view, this process can be designated as the reduction of the dualism of culture to an objectified mind which is only formally intellectualised – in a word, technicized. This internal *technification*, according to the concept we are suggesting here, which is an extreme objectification of life and thought, reveals an atrophied distortion in human action and a reifying disfiguration of men and women. Such a factious bias of culture, to put it in a way which is not exactly Simmelian, can be defined as a state in which human beings are alienated from the world in an age which is particularly scientific and technological.<sup>15</sup>

In this respect it is appropriate to make some comparisons between Simmel’s interpretation and two works which appeared half a century later: *The Transformations of Man* (1956), a significant essay in philosophical anthropology by Mumford, and “Lebenswelt und Technisierung unter Aspekten der Phänomenologie” [World of Life and Technification under Aspects of Phenomenology] (1963), a lecture by Hans Blumenberg given in the context of a discussion of Husserl’s phenomenology and his view of the crisis in European science.

According to Mumford, from the 6th century BC onwards and in the time which elapsed between the emergence of philosophy in Athens and the growth of Christianity, an axial period, or a period of axial religions in human history, developed in Europe and Asia. Mumford describes this sequence as the spiritual foundation which gave rise to a new *persona* and a new concept of community among human beings, whose characteristics are defined by the tendency to represent life as a constant struggle between the forces of good and evil, to cultivate an inner life to the detriment of the outside world, and to separate the natural and the ideal. The conflict which Simmel suggests between subjective culture and objective culture, concepts which were inherited from the Hegelian categories of “subjective mind” and “objective mind,” clearly fall into this long-term memory.

Blumenberg (1963), for his part, sees in Socrates’ arguments against the sophistic proposal to separate knowledge (*theoria*) from the domain of objects (*techné*) as the root of the tradition of resistance favourable to the subordination of instrumentality to morality. According to his interpretation, a type of “craft” knowledge emerged for the first time in the second half of the 5th century BC, in the expertise and rules of manipulation of things which could be applied to any ends since they were unbound from any philosophical references in the political and normative fields. This proposed “technique,” separated from any reference to reasoned arguments for the rightness of its very existence came up against the struggle to keep it forever dependent on whether it was legitimate or not. The reign of *techné*, of skill and instrumentality,

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<sup>15</sup> This interpretation of the direction followed by the historical and cultural process is very clearly summarized towards the end of another article: “To put it at its lowest, historical development tends increasingly to widen the gap between concrete creative cultural achievements and the level of individual culture. The disharmony of modern life, in particular the intensification of technology in every sphere combined with deep dissatisfaction with it, arises largely from the fact that things become more and more cultivated but people are capable only to a lesser degree of deriving from the improvement of objects an improvement of their subjective lives” (EC: 45).

could not be dissociated from an understanding of the norm of rightfulness which justified it.<sup>16</sup> In 1958, Hannah Arendt, in *The Human Condition* (1989), conceptualised this action, in the domain she calls *vita activa*, as an activity of “fabrication” or *know how*. According to Blumenberg, philosophy achieved its classic status in Antiquity, not just because it distanced itself from rhetoric, but also because it assumed in its basic tenets the conceptual determinants through which, from that moment on, operational knowledge could be placed under suspicion, in the sense that it is a mere technique bearing no relation to what is strictly good and true. It did not just mean a supremacy of theoretical considerations as being the most suited to human reason, but above all the primacy of a whole region of objects which was untouched and untouchable for man – the domain which Simmel calls the storehouse of the intellectual work of the human species or, in the post-Socratic Hellenistic tradition, of the rules of right conduct, the meaning of which only they can achieve in themselves.

We believe that it is precisely in this sense that Simmel’s famous essays on the metropolis, the tragedy of culture and feminine culture should be interpreted, and not – *nota bene* – as being post-modern *avant la lettre*. Everything points to the significance which he grants to those areas of life, and others such as consumption, travel and the senses, being due to a sound awareness that it is in the intimate connections between these spheres that the models and activities of social and moral character can produce their results. Hence also his interest in the connections between the economic, metaphysical and political planes, strengthened by the importance he attaches to the problem of the individual’s full and cohesive integration in the life of the city, the *polis*. His reiterated denunciation of the objectification of modern culture and of the calculating, numeric, quantitative and utilitarian model of rationality – these are the meanings of the expressions he uses to explain how the “modern mind [...] resulted from a money economy [which] corresponds to the ideal of natural science” (*MML*: 327) – corresponds to the fundamental category which Simmel points to in his diagnostic of the modern scientific, technological and metropolitan era: the culture of indifference, *blasément*, the inability to perceive significant distinctions between things. In encouraging the attitude of indifference, the *tremendum* of sensory stimulation which the metropolis provokes is joined by the “subjective reflection of a complete money economy to the extent that money takes the place of all the manifoldness of things and expresses all qualitative distinctions between them in the distinction of ‘how much’” (*MML*: 330). In this context we should remember that Simmel never witnessed the *sensorium* of regularity, amplification, distortion, noise and falsity which came with what Mumford ironically called the “blessing” of repetitive machinery and electronic media (1952: 103). “To the extent that money, with its colourlessness and its indifferent quality, can become a common denominator of all values it becomes the frightful leveller – it hollows out the core of things, their peculiarities, their specific values and their uniqueness and incomparability in a way which is beyond repair” (*MML*: 330). While it is true that Simmel does not see the objectiveness of the modern world as a wholly negative development, in that he highlights the greater bonds which mobility and trade bring between individuals and the feeling of individual independence which comes from the impersonality of money, the crux of his approach makes it repeatedly clear that – in a way which is fundamentally Aristotelian – he sees the fullness of man’s existential and personal realization taking place only through harmonious integration in the *polis*.

The very use of the concepts of soul, person, spirituality, metaphysics and virtue, which are omnipresent in the *Philosophy of Money* and in his articles about culture and the metropolis, is a sign that he subscribes to the concept of *persona* in the post-Socratic Hellenic tradition, in Christianity and in Roman law. In that concept, only the individual who constantly transcends himself, in terms of suitably human – that is to say ethical - action, can overcome the limits of his psychic and physical individual being. But the permanent questioning of the overall meaning of life and each man’s search for a pattern in life are also tied to the urgent need which humans feel to have terms of reference to guide their lives. Man’s disconnectedness from the world, as a

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<sup>16</sup> Recently, Carl Mitcham (1996) has suggested the idea of “moral scepticism” to describe precisely the classic attitude of the Greeks, who regarded technology as an imperfect form of knowledge which was socially and morally unsettling and negative, and should be subjected to tight religious, political and cultural restrictions.

result of the culture of indifference and the over-valuation of productive activity, represents an extreme degree of alienation. Precisely for these reasons Simmel wrote: “In any case this overgrowth of objective culture has been less and less satisfactory for the individual. Perhaps less conscious than in practical activity and in the obscure complex of feelings which flow from him, he is reduced to a negligible quantity. He becomes a single cog as over against the vast overwhelming organization of things and forces which gradually take out of his hands everything connected with progress, spirituality and value” (*MML*: 337). Simmel even becomes ironical and surly: “It need only be pointed out that the metropolis is the proper arena for this type of culture which has outgrown every personal element. Here in buildings and in educational institutions, in the wonders and comforts of space-conquering technique, in the formations of social life and in the concrete institutions of the State is to be found such a tremendous richness of crystallizing, depersonalised cultural accomplishments that the personality can, so to speak, scarcely maintain itself in the face of it” (*idem*: 337-338). Simmel was so convinced of the meaning of the “antagonism” which men and women had to face in order to resist “being levelled, swallowed up in the social-technological mechanism” – that which Weber would later describe as the “iron cage of bureaucracy,” Mumford as the “mega-machine,” and for which Kafka became the literary voice – that he regarded it, as he stressed emphatically at the beginning of this essay, as “the most modern form of the conflict which primitive man must carry on with nature” (*idem*: 324). The “independence” and “individuality” which modern man wanted to preserve were in jeopardy on account of the “sovereign powers of society, against the weight of the historical heritage and the external culture and technique of life” (*idem*).

At the same time – and it is something which has not yet been noticed – Simmel was almost certainly the first social thinker to envisage the possibility of a relationship between science, technology and gender, the basis for this relationship being the fact that the duality of culture matches the polarization of the sexual identities. The objective nature of one of the aspects of human culture did not lead him to regard it as being independent of the differences between men and women. Within his dual system of mutual dependencies between life and forms, Simmel always defines as the masculine principle the activity of a mind which develops bi-dimensionally and into which truth breaks in through a form of knowledge requiring deduction on the basis of logical thought. As the feminine principle, he postulates the immanence deriving from women’s participation in the whole of experience and of life and whereby truth takes the form of wisdom. The relational game which is present in Simmel’s idea explores above all a possibility which is evoked in connection with medicine: “Here the question does not concern the – certainly very considerable – practical and social value of the female physician, who has the same abilities and does the same work as the male. On the contrary, the issue is whether we can expect from the female physician the sort of qualitative advance of medical culture that cannot be attained by male techniques. It seems to me that this is indeed the case. This is because, to no small degree, both diagnosis and therapy depend upon the ability to empathize with the condition of the patient. Objective and clinical methods of examination often come to a premature conclusion unless they are supplemented by a subjective knowledge of the condition and feelings of the patient that is either direct and instinctive or is mediated by what the patient says. I regard this sort of knowledge as a universally operative a priori of the medical art. We tend to be unaware of it only because it is self-evident. This is, of course, why its gradations, with their remarkably nuanced conditions and consequences, have not yet been investigated” (*FC*: 76). The feminine principle asserts itself through empathy and may therefore cancel out the indifference of the objective methods which are typical of the masculine principle.

### **Heterogony of ends and autonomous technology**

Simmel was ahead of his time in developing some of the concepts of the independence or autonomy of technology which represented the culmination of the main elements of his embryonic insights into the subject-matter we are dealing with here, and which occupies a pre-eminent position in the *Philosophy of Money*. This line of thought derives, in a coherent manner, from a deeper investigation into the description of the cultural condition of human

beings in the modern era already mentioned. But, at the same time, it advances in directions of greater import and consequence, which involve questioning the objectives of technological progress alongside the question of the ultimate goals of human life. Revisiting Simmel's arguments on this issue shows how much influence he had on the Weberian concept of "rationalization," as well as on all complex interpretations of technology which refuse to define it as merely a set of instrumental means, as can be seen in Weber, Ellul, Mumford, Marcuse and various modern-day writers.

According to Simmel, a feature of the modern cultural process is the danger that objective spheres become autonomous in relation to the individuals who built them. Among those spheres are science and technology, and others like art. In his view "the major process of objectification of modern culture" is the background against which cultural content becomes *objective mind*, in the most obvious way, not just for those who are its recipients, but also for those who are its producers (*PM*: 463). The modern form of this relationship is determined by the division of labour and by specialization, in the sense of both people and things (*ibid.*), and is also the result of the money economy (*ibid.*: 468). The era in which the predominance of objective culture over subjective culture has been so devastating accordingly points to a transition to a predominantly monetarized, technicized and metropolitan society. At the same time, as the division of labour becomes more complex and the economy becomes monetarized, man sees his consciousness of the meaning of life increasingly disturbed. The development of modern science and technological determinism is a part of the increasing independence of the objective world, and is as strong for man as if it were a phenomenon of nature.

It is in this scenario that the phenomenon occurs which we suggest should be labelled heterogony of ends (an expression coined by Wundt and which has affinities with Weber's concept of the "paradox of consequences"): the extreme tension between objective and subjective culture becomes an organized utilitarian system in which all means become ends. All ends and purposes are reduced to means. Technology is precisely one of the forms of expression most emphasized by Simmel in relation to human perplexities (*aporiai*) in the context of the ethical vacuum of the objectification of the technological, monetarized and metropolitan society. In the proper sense of his words, it is in the magical, opaque inexplicit and damaging character of the ultimate ends which technology supposedly offers us that we find the absolute proof of how means become ends. In this way the social meaning of technology derives from its consideration in the context of an understanding of ends which is the product of the restriction of reason to means and to the logic of power. The subject is reduced to the element which reduces him. Let us retrace once more the steps of Simmelian thought, highlighting the basic fact that he was ahead of his time in postulating the concept of autonomous technology.

It is the division of labour which means that "the achievement becomes incommensurable with the performer" (*PM*: 455). Spiritual unity is placed in doubt right away in an unending and self-repeating series of means-and-ends: "the person can no longer find himself expressed in his work; its form becomes dissimilar to the subjective mind and appears only as a wholly specialized part of our being that is indifferent to the total unity of man." (*ibid.*). According to Simmel, the more the phenomenon of the division of labour is traversed by multiple instances of mediation, the more the nature of each of those instances consists in being valid and effective as part of a totality. Consequently, the more objective and independent is that totality in relation to the life of the subjects who produced it.

A process of differentiation such as this, which separates the isolated contents of human subjectivity in the sense that it makes them objects which have "an independent character and dynamics" (*PM*: 456), is the general scheme of social complexity. This scheme also covers the relationship between consumption and production, with the result that the division of labour and specialization are indissolubly interlinked with the culture of consumerism.

As consumption increases, so it becomes inexorably more dependent on the expansion of objective culture. A similar chain of events is found in the rule which states that "the more objective and impersonal an object is the better it is suited to more people" (*PM*: 455). The increasing differentiation of production is accordingly implicated in making subjective desires uniform. The growth of consumption is made possible thanks to the accessibility and attractiveness of objects for the largest possible number of individuals. Nevertheless, these

characteristics are merely the result of the extreme differentiation of production which makes it possible to produce objects cheaply in serial fashion, as is required by the volume of consumption. Mass production and mass consumption are mutually interdependent, encouraging standardization and the impersonal nature of objects: "Since the division of labour destroys custom production [...] the subjective aura of the product also disappears in relation to the consumer because the commodity is now produced independently of him. It becomes an objective given entity which the consumer approaches externally and whose specific existence and quality is autonomous of him" (*PM*: 457). Nothing describes so clearly "the growing objectivity of the economic cosmos and its impersonal independence in relation to the individual consumer" than the difference "between a modern highly specialized dress store and the work of a tailor who worked at the customer's house" (*ibid.*).

The distance between objects and the human soul, which exemplifies the relationship of alienation in the sphere of consumption, is already implicated in the process which "separates the working person from the work produced and endows the product with objective independence" (*ibid.*) as part of the production or of labour itself. The created work no longer projects the soul of its creator, nor does it touch the soul of the individual consumer subject. It is the result of the "splitting up of work into increasingly specialized partial operations, exchange relations become increasingly complicated and mediated with the result that the economy necessarily establishes more and more relationships and obligations *that are not directly reciprocal*" (*ibid.*). The "character of transactions" becomes objective, and "subjectivity is destroyed and transposed into cool reserve and anonymous objectivity" as "so many intermediate stages are introduced between the producer and the customer that they lose sight of each other" (*ibid.*). The division of labour is seen as the distribution of production, as fragmentation and specialization. Meanwhile the relationship between consumption and the increasing complexity of production is just one aspect of the system of mutual interaction of objectification of culture and the division of labour.

Simmel combines with the facts above the idea that, in the 19th century, work (labour) had already become a commodity. "The fact that labour now shares the same character, mode of valuation and fate with all other commodities signifies that work has become something objectively separate from the worker, something that he not only no longer *is*, but also no longer *has*. For as soon as his potential labour power is transposed into actual work, only its money equivalent belongs to him whereas the work itself belongs to someone else or, more accurately, to an objective organization of labour" (*PM*: 456). The result of this development of means and the effort of labour is visible in the final product. In the "capitalist era," the final product is "an object with a decidedly autonomous character, with its own laws of motion and a character alien to the producing subject, [which] is most forcefully illustrated where the worker is compelled to *buy* his own product if he wishes to have it" (*ibid.*). The increased distance between the subject and his creations also derives from the consequences of specialization and the differentiation of the very means and instruments of work, which prevents workers from recognizing the results of their own actions in the results of their activity: "In that the machine becomes a totality and carries out a growing proportion of the work itself, it confronts the worker as an autonomous power, just as he too is no longer an individual personality but merely someone who carries out an objectively prescribed task" (*PM*: 459).

This "general pattern of development", which transcends the individual "wage-labourer", also affects the scientific environment. For Simmel science is characterized by the "immense division of labour in science [which] results in a situation in which only very few scholars are able to procure for themselves the prerequisites for their work; innumerable facts and methods have simply to be accepted from outside as objective materials, as the intellectual property of others that is to be used for further research" (*PM*: 456). In his opinion, this tendency contrasts with that which, "in the sphere of technology", took place at the beginning of the 19th century, "when the most spectacular inventions in textile and iron industries followed one upon the other" and when "the inventors not only had to produce the new machines by their own hands and without the help of other machines, but most of the time they had to devise and produce the necessary tools for doing so" (*ibid.*). "In a broader sense, and in any case in the sense

implied here, the present situation in science”, Simmel goes on, “can be designated as a separation of the worker from his means of production. For in the actual process of scientific investigation the objective material of the producer is certainly separated from the subjective process of his work.” (*ibid.*). Simmel was ahead of his time in identifying the changes in the structure of scientific work, in the sense of its having become a complex, specialized, fragmented organization entirely consistent with the more general process of objectification and reification. In this he was taking the first steps on the path towards an analysis of the significance of social change for science itself, which many later observers were to follow.<sup>17</sup>

In Simmelian language, the results of science were beginning to be products of the mechanical and technical fragmentation of work. They have no creator or, at least, their creator is separated from their ultimate destination. He conducts this analysis of how the ever-widening gap between the culture of men and the culture of things has taken possession of science on the basis of the German philosophical tradition of alienation which Hegel had looked at particularly in *Phenomenology of Mind* even though it had been developed in greater depth by Marx in his *Economic and Philosophical Manuscripts*. This helps us to understand the parallel development of Simmel alongside Marx: Simmel was not aware of Marx’s earlier work, written in 1844, but which was only published in 1932 (and only translated into English after the Second World War).

Simmel goes on: in modern life people and things tend therefore towards constant separation. Thoughts, work and skills become objective forms, books and commodities. “The sense of being oppressed by the externalities of modern life is not only the consequence but also the cause of the fact that they confront us as autonomous objects” (*PM*: 460). For him the most distressing aspect of all this lies in the fact that the rational arguments for the market economy, for the rise of the impersonal and for replaceability have led to our becoming indifferent to the domain of things with its impressive variety (*ibid.*).

The trend towards complete differentiation between objects and human beings is also reinforced by a new mechanical and technical phenomenon– “impersonal mobility”. “Cultural objects increasingly evolve into an interconnected enclosed world that has increasingly fewer points at which the subjective soul can interpose its will and feelings. And this trend is supported by a certain autonomous mobility on the part of the objects” (*ibid.*). In accordance with Simmel’s premonitory view here, this independent mobility of things, of machines and of vehicles corresponds to a landscape of “kinaesthetic immobility” of subjects, if we adopt Husserl’s concept, or “polar inertia,” in the more recent version of French essayist Paul Virilio (1999). The self-sufficiency of vehicles and machines, which leads to the atrophying of man’s mobility and that of his body, becomes one of the main features. It has become possible for man to move about everywhere in all sorts of ways, in line with itineraries and timetables, and to be a spectator of everything – through the world of multimedia – without actually needing to make a single physical movement. “It has been pointed out that the merchant, the craftsman and the scholar are today much less mobile than they were at the time of the Reformation. Both material and intellectual objects today move independently, without personal representatives or transport” (*PM*: 460).

Simmel sees the high point of impersonal mobility in the automatic product dispenser (the slot machine), which is the clearest example of the mechanical nature of the modern economy: “(...) human relationship is completely eliminated even in the retail trade where, for so long, the exchange of commodities was carried out between one person and another. The money

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<sup>17</sup> In this respect see, for example, Alden S. Klovdahl’s entry in the *Dictionary of 20th Century Thought*: “In contrast [to the scientific revolution in the modern era which was cognitive in nature], what has changed most radically in this century has been the social organization of science [...] Methods of accounting that made capitalist enterprise possible have been extended and applied, initially to technology and subsequently to science. [...] The relentless pursuit of economic rationality has been nowhere as evident as in the bureaucratization of research. For individual scientists this has meant a transformation from independent explorers to employees positioned on hierarchical career ladders in large organizations, from wideranging generalists to ever narrower specialists, and from personal participants in self-regulating communities to anonymous members of large professional associations” (1993: 569-570).

equivalent is now exchanged against the commodity by a mechanical device" (*PM*: 461). As Marx had already pointed out for the railway, which beyond transporting products also produced goods, the new mechanical aid represented by the slot machine intensifies the trend for mobility and circulation to become subjugated to the process of commodification and to the rules of the market economy. In this context Jean Robert has very appositely remarked: "The relationship between walking and means of transport is the model for the whole relationship between an autonomous mode and its opposite, a heteronomous mode of production" (1998: 2). In the analytical tradition in which Simmel took the first steps, man's unceasing retreat in the face of the autonomous mobility of objects or in the face of the heteronomous replacements for his own physical mobility is interpreted as leading to his relationship with the real world becoming debilitated. Albert Borgmann, one of the thinkers who has most emphasized this feature of the technological society (1984), has convincingly argued that this occurs when an effort is no longer required to have access to the world, and even more so a duty is inculcated in us to free ourselves completely from that effort by means of technical devices and through the consumption of objects and artefacts.

It is a few pages further on however, and on the basis of the perception that "every problem solved [by science] throws up more than one new one, and that coming closer to things often shows us how far away they still are from us" (*PM*: 475) that Simmel takes a long look at modern science and technology in the context of some elements from the background of Western metaphysics. The process of objectification of cultural contents impregnates all aspects of modern or "developed" culture, implying the separation of the means and ends of life. The *telos* of action is lost under the distancing influence of the money economy, science and technicity. The "spiritual relationship" with the world of which science and technology are a part emerges as being identical to that of money where all participants move and are made to move by a "teleological net" between means and ends.

In the first part of this digression Simmel positions that net in the "dual process" of the attempt to overcome distance which science makes possible (as in the process of the conversion of values into monetary form) (*PM*: 475-476). He gives as examples the microscope and the telescope, through which men have overcome huge distances between themselves and things in the external world, even though they become aware of those distances at the precise moment they overcome them. However, this is a situation which is familiar to us from the realm of the metaphysical doubts in which we have been moving for a long time. It will be difficult for the scientific methods which we have come to use in order to penetrate the inner aspects of nature to replace that intimate closeness vouchsafed to the human soul by the sensations and beliefs of Greek mythology (even if they were wrong): "The more distance in the external world is conquered, the more it increases the distance in the spiritual world" (*PM*: 476). The origins of this tension lie in a distancing process applying to relationships which are properly inner relationships and in a reduction of distance in external relationships: "the most remote comes closer at the price of increasing the distance to what was originally nearer" (*ibid.*). And it does not stop expanding and spreading to all spheres of life. The division of labour implies a separation of the worker from the means and from the product of his labour, production is separated from consumption, the subject distances himself from the realities of life, science and technology from their purposes, in brief: the objective culture tragically moves away from the subjective culture.<sup>18</sup>

Simmel builds his clearest insights on technology on the foundation of the preponderance of means over ends which is typical of modern society. Alongside what he says about money, Simmel argues the case for saying that in the technological environment means as a category become ends. Once again calling up the analogy with life-style, he sets out by stating that

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<sup>18</sup> Hannah Arendt (1989) would also come to mention the scientific revolution of Galileo's age and give the example of the telescope as a symbol of the process which made it possible for man to expand his perception to a better understanding of the universe, but which did not bring about a reduction in the distance between man and Earth. On the contrary, according to Arendt, the reduction of earthly distance which the airplane later made possible took place at the expense of man's alienation from his own immediate earthly world. As man's perception moved towards encompassing the whole Earth, the smaller the earthly space left to him, who accordingly came to focus only on himself.

technological progress has a “distancing effect” (*PM*: 481) on it. In other words, technology as a means does not withdraw once the objective has been attained, it does not fade into a particular effect; on the contrary, the end (purpose) is what is supplanted by the appreciation and magnitude of the means, the effects overcome the ends. “This is obviously connected with the over-emphasis that the means often gain over the ends of life in mature cultures” (*ibid.*). The consequence of this situation is a cultural attitude of restlessness, latency and incompleteness: “Modern times, particularly the most recent, are permeated by a feeling of tension, expectation and unreleased intense desires – as if in anticipation of what is essential, of the definitive of the specific meaning and central point of life and things” (*ibid.*).

Simmel argues that the order of means and ends has been switched. This reversal defines technology in the modern world: “the tendency towards making final ends illusory appears less crass, but more dangerous and insidious, in the advances and evaluation of technology” (*ibid.*). Technology, in the scientific age, has become soteriological, an ideology of salvation, as Ellul was to state (1987). The purpose of human existence has become concentrated totally on the production of means: “with this teleological web we have reached the very pinnacle of the contradiction that lies in the drowning out of the end by the means: the growing significance of the means goes hand in hand with a *corresponding* increase in the rejection and negation of the end” (*PM*: 481).

The situation described above “increasingly permeates the social life of the people: it directly interferes with personal, political and economic relationships on a large scale and indirectly gives certain age groups and social circles their distinctive character” (*ibid.*). It is in this sense that technology becomes autonomous, as it moves from being a means and becomes an end. It does not acquire this autonomy, according to Simmel, from the sovereignty which the cognitive aspects of the natural sciences and technology have over our best possible image of the laws of Nature, to call upon Nicholas Rescher’s conception of the self-sufficiency of science (1999: 116), but from the fact that it becomes an immanent reality and that it is limitless in its grandeur, going beyond the specifically cognitive sphere. Even when technological progress encourages the search for new ends, these ends will become means for that self-same technological progress. It is for this reason that the illusion of technology is damaging and invisible, and all the more threatening for being opaque, for, as Simmel interprets it, technology becomes the end-purpose of life. The category defined as “means” is no longer adequate to describe technology: “if the relationship of technological achievements to the meaning of life is, at best, that of a means or an instrument or very often no relationship at all, then, from among the many causes of the failure to recognize technology’s role here, I only wish to mention the splendour that it has autonomously developed” (*PM*: 481).

Simmel’s explanation of the teleological net represented by the conceptual pairing of means and ends leads him to question its original foundations. He situates it in an “old metaphysical mistake: to transfer the attributes that the elements of a whole possess in relation to each other to the whole” (*PM*: 482). If to the “enthusiasts of modern technology” it seems “most strange (...) that their attitude is based on the same formal mistake as that of the speculative metaphysician” (*ibid.*), that does not invalidate his analysis: the *relative* height that the technical progress of our time has attained in comparison with earlier circumstances and on the basis of the recognition of certain goals is extended by them to an *absolute* significance of these goals and this progress (*ibid.*). In invoking this metaphysical foundation – so typical of Simmel – of the ends-means teleological duality, and with the parallels he sees in the attitudes of the technophile and of the speculative metaphysician, he is introducing quite directly the theory that the West’s scientific impulse finds its essential legitimacy in Christianity, as Lynn White and Karl Löwith have suggested, amongst others. Nevertheless, it is certain that in Simmel’s work, more in *Schopenhauer and Nietzsche* than in the *Philosophy of Money*, there is always a suggestion of how important are the ties between Christian religion and the foundations of modern notions of science, and even of history. In the same way, Simmel’s scepticism in relation to scientism, historicism and the ideology of progress can be related to his awareness that science and technology were beginning to replace religion as the dominant cultural sphere, moving away from the tendency of many notables of the 18th and 19th centuries who held that

wisdom could only be of a secular nature and that man should direct his curiosity primarily to the objective world.

Simmel's rejection of those metanarratives was impelled by a very clear and unusual perception – not just in his own time – that they were basically metaphysical representations, as we can better see today in the light of the experience of the 20th century with some of them. Simmel's approach did not denote nostalgia for the world order which was breaking down under the thrust of modernity, but he was exposing the lie of objectification in questioning the metaphysical enigma which contributed to giving legitimacy to the transformation, through a systematically utilitarian criterion, of the adage that “the ends justify the means,” which in the beginning was “the means justify the ends.” However, he devotes little space to an issue which is complex and intriguing in the history of ideas and which German thinkers in particular have consistently addressed.

Odo Marquard has made a valuable contribution to clarifying the issue which Simmel raises. To put it succinctly, it is in the optimism of the Leibnizian form of theodicy that Marquard sees the sub-institutional roots which helped to buttress the underlying logic of the domain of unlimited accumulation of means and of the strictly utilitarian world of productive and demiurgic man, thus redefined by the philosophical anthropology of the 17th century, in which the relationship between means and ends is lost in an unending chain, without ever attaining a principle which would end up justifying it. In Leibnizian theodicy the main argument in the definition of God is optimistic: God does not compensate for evil with good, it is evil which is rehabilitated by the good which it pursues. Evil is tolerated because “the optimal, as end, justifies evils as the condition of its possibility” (1989: 46). “Therefore, the secret fundamental principle of this theodicy is – *horribile dictu* – the statement: the end sanctifies the means” (*ibid.*). Following this interpretation, only God can escape from the means-ends relationship. This is interpreted as an extreme religious “principle of creation.” Thus it is when God is liberated from this principle that this very principle can finally succeed.<sup>19</sup> With the crisis of theodicy, man as an end in himself is able to use everything else as simple means, and becomes the heir who achieves and completes the theodicy. Every end attained becomes a new means to another end. In a passage devoted to the same issue, Hannah Arendt (1989: 153-159) had already suggested a very similar argument: “If one permits the standards of *homo faber* to rule the finished world as they must necessarily rule the coming into being of this world, then *homo faber* will eventually help himself to everything and consider everything that is as a mere means for himself” (*idem*: 158).

If we are to believe this interpretation, and coming back to what Simmel has to say, the outcome of this teleological mesh of means and ends is that what comes out on top is not the possible uses of the means, but the means themselves. The ends no longer sanctify the means, it is the means which sanctify the ends. The finality of ends lies henceforth in the creation of means. The logic of Leibnizian theodicy facilitates a powerful linkage with the systematically utilitarian criterion used by *homo faber*: in order to save the means, the ends have been freed of their creative role. Here too, the good (technology) only exists through evil (for example, scarcity or illness) and in competition with it. *Bonum* through *malum*, that is the system of legitimacy for the innate finality of life having become the unending manufacture of means. This may help us better to understand Simmel's most cogent ideas on modern technology: against the metaphysical backdrop of the complexity of systems of ends in modern culture, the weakening of Christianity, and the absolute end which it offered (ideas which Simmel developed in *Schopenhauer and Nietzsche*), technology became for human beings the central focus of work and significance. Man today has electric light, but forgets that the essential thing is not light in itself, but that which light renders visible. The excessive delight in the triumph of the telegraph and the telephone leads men to neglect the content of their communication (*PM*: 482).<sup>20</sup>

<sup>19</sup> In consequence, Marquard concludes, “God's non-existence must be allowed or even insisted upon” (1989: 47). When God was freed from his creator role, his place was left vacant for man to occupy.

<sup>20</sup> A good interpretation of the relationship between means and ends in Simmel can be found in Lawrence (1976: 50-51).

We should stress once again that Simmel's attitude is not merely negative in relation to the world of objective culture. Rather it is aimed at highlighting a set of genuine issues. These relate to forms of intellectualisation and action which restrict human existence to the realm of calculability, monetarized values, and the unlimited accumulation of means as control mechanisms for a misleading idea of progress. Whenever means are put into operation, it is that thought which is active. "[The] preponderance of means over ends finds its apotheosis in the fact that the peripheral in life, the things that lie outside its basic essence, have become masters of its centre and even of ourselves" (*ibid.*) Simmel makes his indictment in the name of a genuine existential philosophy which turns its back on the illusion of objectivism and the universe of operational and conceptual power carried through by a "very childish formulation" of vanquishing or dominating nature (*ibid.*) which leads to the loss of meaning of life and of the world. "If we consider the totality of life, then the control of nature by technology is possible only at the price of being enslaved in it and by dispensing with spirituality as the central point of life. The illusions in this sphere are reflected quite clearly in the terminology that is used in it and in which a mode of thinking, proud of its objectivity and freedom from myth, discloses the direct opposite of these features" (*ibid.*). Nature does not of itself resist scientific and technological capabilities, in so far as the teleological element is alien to it, its subjection to them will not alter its laws, the much propagated effectiveness of natural laws is non-existent, if by that we presume a clear obligation for things. This type of idea obliges Simmel to return once again to the unexpected overlap between science and religion: "The naivety of this misunderstanding of natural scientific methods – the assumption that natural laws direct reality as real forces just as a sovereign controls his empire – is on the same level as believing in God's direct control over our earthly life" (*PM*: 483). And he reaffirms emphatically, stressing that very ancient slide from the anthropologization of technology to the technification of human beings: "Although all this seems to be just a matter of terminology, it does lead astray those who think superficially in the direction of anthropomorphic misinterpretations and it does show that the mythological mode of thought is also at home within the natural scientific world view" (*ibid.*).

In giving rise to a world so full of objects, impersonal forces and products of work, increasingly guided by a controlling focus on instrumentalism, utilitarianism and quantity, human beings lose sight of the ends which confer meaning and significance on the means they use. This heterogonic direction of ends signifies that their objectivism and their world become independent in relation to the human activity which produced them. Man runs the risk of becoming a servo-mechanism in both production and consumption: "Yet the thread by which technology weaves the energies and materials of nature into our life are just as easily to be seen as fetters that tie us down and make many things indispensable which could and even ought to be dispensed with as far as the essence of life is concerned. It has been asserted with reference to the sphere of production that the machine, which was supposed to relieve man from his slave labour in relation to nature, has itself forced him to become a slave to it. This is even more true of the more sophisticated and comprehensive internal relationships: the statement that we control nature by serving it implies the shocking obverse meaning that we serve it in so far as we dominate it." (*ibid.*).

Following the line which Hannah Arendt would later develop (1989: 126-135), Simmel heralds a world in which no object is safe from annihilation by consumption and in which all the energies of each subject must be channelled to the production of objects which belong only in the realm of fantasy or may even never before have been imagined. In the modern era, all activities and all human beings are henceforth subject to the rule of necessity through the principle that non-emancipation from consumption means non-emancipation from work. That is the web spun by and encouraged by the division of labour, money economy and scientific and technological capabilities.<sup>21</sup> "Just as, on the one hand, we have become slaves of the production process, so, on the other, we have become the slaves of the products. That is, what nature offers

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<sup>21</sup> Don Slater is right when he stresses that the Simmelian model of consumption observes a significant connection with the process of rationalization and reification, which had a strong influence on Lukács (Slater, 1997: 117-118). On this issue, see also Timothy Bewes (2002).

us by means of technology is now a mastery over the self-reliance and the spiritual centre of life through endless habits, endless distractions and endless superficial needs. [...] Man has thereby become estranged from himself; an insuperable barrier of media, technical inventions, abilities and enjoyments has been erected between him and his most distinctive and essential being.” (PM: 483-484). As Mumford observes in discussing the mechanical reproduction of art, consuming on a continuous basis has become the imperative for a new group of human beings – consumers (Mumford, 1952: 107). In the context of the global expansion of capitalism over the last few decades, Leslie Sklair (2002) rightly stresses that the nexus between this process and private capital accumulation implies promoting a “culture-ideology of consumerism” which commodifies and presents as useful and attractive things all the ideas and material products it wishes to appropriate for itself.

In consequence, “spirituality and contemplation” of the subject, “stunned by the clamorous splendour of the scientific-technological age, have to suffer for it by a faint sense of tension and vague longing” (PM: 484). The individual is assailed by omnipresent restlessness and nervousness, “as if the meaning of life clearly confronted us, as if we would be able to grasp it were it not for the fact that we lack some modest amount of courage, strength and inner security. I believe that this secret restlessness, this helpless urgency that lies below the threshold of consciousness, that drives modern man from socialism to Nietzsche, from Böcklin to impressionism, from Hegel to Schopenhauer and back again, not only originates in the bustle and excitement of modern life, but that, conversely, this phenomenon is frequently the expression, symptom and eruption of this inner-most condition. The lack of something definite at the centre of the soul impels us to search for momentary satisfaction in ever-new stimulations, sensations and external activities. Thus it is that we become entangled in the instability and helplessness that manifests itself as the tumult of metropolis, as the mania for travelling, as the wild pursuit of competition and as the typically modern disloyalty with regard to taste, style, opinions and personal relationships” (*ibid.*). As we can see, the topics, the analysis of modern culture and even the inspiration for the titles of the works which he would later produce are already laid out in the final section of the *Philosophy of Money*.

It is recognized that the very significant approach involving the specific rationality of modern Western civilization which Weber would later develop was inspired by these reflections of his friend Simmel. Let us not forget that, for Weber, the various different social and cultural processes which distinguish the Western model of rationalization are tied together by the fact that they involve, above all, rationality of action – formal rationality – to the detriment of their goals or values – substantive rationality. Disenchantment with the world, intellectualisation, the emergence of an *ethos* of impersonal secular realization, the growth of specialized technical knowledge, the objectification of law, the economy and the political organization of the State, the development of technically rational means of control over man and nature, and the tendency to overvalue purely instrumental action by contrast to traditional action are all processes whose common link is the fact that the end for which social order is rationalized is not truly an end but a generalized means which encourages the deliberate search for all substantive ends (Weber, 1979).

In this way, a tradition was built up, running from Simmel to Weber, from Mumford to Marcuse and Ellul, in which technology was seen not just as a world of objects and artefacts. Nor was scientific and technological civilization so designated simply on account of its massive use of machines and the size of its technical systems. In Simmel’s thinking about modern technology, it is seen as involving that which Meltzer summarizes felicitously as being its enormous scope: “Beyond physical instruments and the machines lies something that may be called the technological ‘attitude,’ or ‘way of thinking,’ or even ‘posture towards Being:’ a non-specific but generally utilitarian understanding of ends, a primary focus on means and power, the restriction of reason to instrumental rationality – the methodical pursuit of the one maximally efficient way of doing each thing –, faith in human self – reliance and control, the belief in the superiority of the artificial to the natural and the mechanical to man, and the view that everything man encounters in nature or history is only raw material and that he is free to transform for his own purposes” (1993: 292).

In the dispiriting landscape which followed the atomic deflagrations at the end of the Second World War and, later on, the public knowledge of the most serious damage which modern industrial societies inflict on the world ecosystem, some thinkers became convinced that technology had its own autonomous direction which was unlimited and uncontrollable. This gave rise to a form of reflection in which it is argued that technological and scientific advances cannot be accepted blindly and in which there is a fear that human life will be narrowed down to technicity. Langdon Winner (1977) applies the concept of “autonomous technology” in the title of one of his main books and looks at the technological processes, patterns and practices which are gradually replacing all other types of construction, choice, action and influence which were previously regarded as being specifically political in nature.<sup>22</sup> This author is among the handful of heirs, in the broadest sense, of that vision of the process whereby technology becomes autonomous, which Simmel was the first to name and study in social theory. Mumford, Ellul and a few others followed on in this type of critical interpretation of autonomous technology, in the sense that technology is not limited by anything external to itself. There is however not much sign of this important tradition in the dominant orthodoxy of “social science studies,” which is of a radical constructivist nature and generally argues in favour of the notion that technology should be interpreted in the context of its “social construction” or “social shaping.” Other characteristics of that dominant tendency are that it disconnects technology from any attribute of causality or of penetrating and formative influence, in favour of a vision of sociological solipsism, an emphasis on the possibilities of public choice, and a lack of emphasis on the economic, cultural and political processes and connections which dictate and ratify technical innovations.

It is amazing how often the theory of “autonomous technology” is misunderstood as a manifestation, in a pessimistic version, of technological determinism, on account of its image of society captured by the movement of perpetual change brought about by technological advances and by the fact that human purposes are conditioned by the demands of scientific and technological progress and its pattern. Nonetheless, Simmel’s approach, which contributed to the beginnings of social theory in this area by evoking an image of a society subject to the technological imperative, contains all the basic arguments required to rebut an interpretation based on technological determinism which we can only regard as inadequate. For a start, the Simmelian approach as a whole (as with that of other writers mentioned above, regardless of their differences) is characterized by a categorical denial that society is inevitably determined by technology. Secondly, this vehement denial involves an epistemological refusal to accept – here too Simmel was a pioneer in social theory and Weber followed – that history or society are governed by ineluctable laws which may or may not have their foundation in the economic or technological sphere. This denial in turn embraces a strong notion of uncertainty regarding the relationship of natural science to the physical and biological world. Finally, to grant technology a place in human life as objective culture, does not mean that this line of thinking regards it as a primary element in social organization or in man’s cultural life – quite the opposite in fact.<sup>23</sup>

As Carl Mitcham has explained (1989, 1994), the view that technology is a phenomenon which raises no significant issues and that the world can be explained in predominantly technical terms aimed at expanding technological consciousness is a feature of the so-called “philosophy of technology,” whose motto can aptly be illustrated by the well-known adage, which Ernst Kapp included in the beginning of his book *Grundlinien einer philosophie der technik zur entstehungsgeschichte der culture aus neuen gesichts* (1877): the whole history of humanity, if we check it carefully, comes down in the final analysis to a history of the invention of better tools. In the opposite sense, the recognition of technology in human culture, as achieved by Simmel and writers such as those mentioned above, implies a refusal to see it either as something merely artefactual, which would be value-neutral in nature, or as something which is the pre-eminent driving force for history and society. The integration of technology in the

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<sup>22</sup> Along the same line, Ulrich Beck (1992) focuses on the silent and surreptitious changes which have been driven by technological policies under which unplanned and democratically illegitimate decisions are taken, while Hermínio Martins (1998) looks at the subjection of planning to radical change in the human condition of modern technology.

<sup>23</sup> An excellent multi-disciplinary introduction to the study of science can be found in David J. Hess (1997).

vast scheme of man's cultural manifestations, that is, the recognition of a proper scope for technicity, is given as part of an equation in which its relationship to the world of values – in Simmelian language the subjective mind – is defined as a dialectic.

## Conclusion

Three main elements of key importance for thinking about technology stand out from Simmel's diagnosis of culture in the modern world. First, technology is one of the results of the externalisation of the subjective mind in the social and cultural world and as a manifestation of the objectification of human subjectivity it accordingly fully embodies the cultural process. This inclusion of technology in culture takes place through an interpretation which breaks with a narrow, instrumental and utility-oriented interpretation, and broadens out to a certain type of action, to forms of social and cultural organization, and reveals the formative implications derived from its role of mediation and expansion of the scope of human action. What makes the modern world technological does not derive merely from extensive material development but also from the dissemination of this phenomenon to other areas of life formally distant from it. Secondly, man is characterized by his condition as a metaphysical being, and his vital needs are not of a technological nature. Consistent with the idea that technology is not a neutral entity, its meaning is not however reduced to a mere set of objects and instruments, rather it is derived from implications which refer both to the more directly axiological or political plane, and to spiritual relationships, that is, to the state of man's very relationship to the world. Thirdly, as a result of the evolution of means and the phenomenon of the division of labour associated with capitalist differentiation and the stimulus of money, technology becomes an autonomous, unlimited and universal system, in the sense that it is an ultimate but misleading aim of human action and development. What we have here is the alienation of man in relation to his own instruments and artefacts: technology no longer operates in relation to man's ends; humanity starts to operate as a function of technology.

What is admirable in Simmel's vision is his inclination to illustrate the ambivalence of modernity by means of the lines drawn by the point of sharp confrontation between the two forms of presented throughout this chapter – objective culture and subjective culture. The central pivot of his analysis is the alternating conflict between life and the mind, the real and symbolic duality that aspires to a unity which, in the modern era, becomes an factitious search, rather than a fictitious one. The growth of objective culture in modern society is closely tied to a type of intellectualisation or rationalization in which the objectivity of the world extends to the treatment of the contents of that world as objects. Marx had highlighted this issue – reification – in the economic process, both in political economy and in the economic *praxis* of capitalism. And he had applied the label “alienation” to the emergence of economic relationships which were not seen as relationships between producers, but as relationships between things and objects. Private property transforms the means of production from simple tools and materials of man's productive activity into ends which make him subordinate, that is, which alienate him from himself, in so far as he is no longer an end but a means, no longer a person but an object in an impersonal process which values only itself and renders him heteronomous without looking to his needs and demands. According to Marx, it is not the worker who uses the means of production, it is the means of production which use the worker. Instead of being consumed by him as material elements of his productive activity, it is they which consume him as the necessary ferment of their own vital process (1906: 339).

Unlike Marx, however, Simmel sees this objective heteronomy of man as the result of a wider process of objectification of human thought and culture. The externalisation of human subjectivity in the social and cultural world produces a world of contents and cultural objects which, although made by individuals, tends to grow out of that origin and to follow its own movement, not just in the sense that it is self-constituting, but truly autonomous. When that

objective cultural world becomes obscure and threatening for individuals, that independence becomes reification, and this is experienced as alienation. The meaning of this broad process of objectification is to be found in the profound changes in emotional and intellectual behaviour in all the human relationships of a society which is complex, monetarized, technicized and metropolitan. The notion of reducing the problem of reification to an understanding of and subversion of capitalist society is, accordingly, simply alien to Simmel.

Like Durkheim, Simmel, although avoiding the tendency attributed to Durkheim in *Les Formes Élémentaires de la Vie Religieuse. Le Système Totémique en Australie* [The Elementary Forms of the Religious Life: A Study in Religious Sociology] to view religion as a pre-scientific manifestation of authority in a society, was also preoccupied with the consequences for society of modern man's refusal to penetrate the social whole through symbols and ideal images which were not legitimised through science. This perceptive interpretation, by Albert Salomon in 1962, had the merit of showing us that, while Durkheim dealt with the basic duality of man, as a specifically individual and social being, basing himself on the notion of *Homo Duplex*, and George Herbert Mead resorted to the dialectic between *I* and *Me*, Simmel outlines a historical and philosophical approach based on an in-depth questioning of man's situation and his knowledge at a period of time which he sees as being one of erosion of the unification of the inner being under the unique finality which had been offered by the Christianity's promise of salvation and by religious institutions, which were the only ones, apart from political institutions, able to provide the organization of social action as a whole. In this interpretation, which is similar to our view of emphasis on the relationship between the metropolis and mental life, Simmel clearly does not believe – and this is an issue which has not received very much attention or been properly understood by those who have studied his work – in a society which is basically shaped by utilitarian criteria, monetarized values and by the heteronomy instituted by technological determinism, it should be possible, after the decline of the previous religious heteronomy of the world, to establish symbols which are appropriate for the full existential realization of human beings in an autonomous society of autonomous individuals. But in this respect, there is an important distinction between Simmel and Durkheim: the French writer's "unitary" conception of the relationship between the subject and the determinations of an immanent social order gives way, in Simmel, to a view of sociology as a theory of forms of and cultural diversity through which life, in a metaphysical sense, takes place, is externalised and can be evoked (rather than captured), on a tensional plane between two antinomian forms of human culture which nevertheless aspire to unity. It is clearly for these reasons that what Simmel addresses in connection with the metropolis is the state of [individual] mental life, rather than the integration of the individual in the city on the basis of a socially totalising principle. His epistemology is essentially at one with the ontological plane.

The much highlighted dialectic of alienation and freedom - which has been highlighted by several commentators on Simmel (or, better still, of a certain "individualization," psychologism and aestheticization of life) which human beings experience in ambiguous fashion in modern society, was always tied in with his gloomy diagnosis of the consequences of the extreme division and specialization of production, consumption and science. These represented a danger that man would renounce in-depth investigation and understanding of the set of symbols which make harmonious participation in the *polis* possible. There is no doubt that Simmel recognizes in modern society, through the division of labour and the metropolitan life, greater possibilities for enabling the subject to open up to placing himself in the intersections of the various "social circles," through which his opportunities for personal development may also expand. But he especially emphasizes the danger of the distance between the growing overall culture and that of individuals becoming ever greater and unceasing, a process which he pointed out as being typical of human culture itself, despite its being more sharply defined and more dramatic in the modern period.

In line with what we are suggesting here, what is at issue in Simmel is not the denial of the ontological distance between individuals and society, as a result of his supposed adoption of "methodological individualism." The acceptance of the irreducibility of society as an independent entity in relation to the individual does not necessarily mean, and in Simmel does not mean, the alienation of the individual. The importance he attributes to intersubjectivity

never led him into denying the relevance of the concept of society, as is moreover abundantly clear in his theoretical work on the importance of quantitative determination of group divisions (*QDGD*). The problem for Simmel lies in the fact that the “objectified mind” of society, which is revealed in material creations and organizations, starts increasingly to enter into conflict with individuals’ capacity for subjective integration in terms of personal and social development. An interpretation of his work which focuses on his analysis of the rapid development of a technological and metropolitan society, based on scientific advances, which was bringing about a complete transformation in intellectual and emotional attitudes in all human relationships, enables us to show the extent to which the denunciation of the heteronomy of the individual seeks to be compatible with the insistent attempt to assert an idea of autonomy for society itself – an objective pursued by other thinkers, as Jean-Pierre Dupuy properly reminds us in connection with Cornelius Castoriadis (1992: 299-303) – as a way of ensuring that the individual is not denied an enlightened and creative role in the society as a whole.

The Simmelian project is defined by the attempt to direct man’s objective world in relation to man himself, or rather, to an idea of man. The human being with a preponderance of objective culture is the outcome of the contraction of the idea he has of himself and of his symbolic/subjective nature. Simmel does not demonise the objective culture, nor does he reduce the problem of technology down to a world of objects, artefacts, machines or mechanical systems. In the tradition to which he gave birth, postulating technology as a mere set of appliances would be to see it in a mechanized form, as a product of the reification of thought. In focusing on the world of objective culture and technology, Simmel stresses a particular line of thinking in order to denounce a whole tendency to restrict human life to that scope. The situation of modern culture leads us to a debate on nature and the transformations of human life. Human beings should not limit themselves to the possibilities of technology and explanatory scientific reasoning, avoiding the demands of understanding, succumbing to an factitious bias, retreating into the apodictic world. In Simmel, we find a whole body of philosophical anthropology which stands against autonomous technology, when seen as the extreme form of the heteronomy of society which threatens the very concept and independence of the person. The world of man is the world of tension – albeit tragic tension – between subjective culture and objective culture. We may join Simmel in calling this tension spirit, soul, or conscience. When that tension disappears, as a result of the hypertrophy of objective culture, the world becomes a quantitative world, the world of technology, the world of efficacy. It is conscience, and not efficacy which gives man the opportunity to be human, to be a person. Simmel’s work is a denunciation of the objectification of the mind, which in turn is the precursor of a scientific and technological image of man. Such an image is actually what is now at issue at this critical moment, one hundred years later, as a result of current trends in genetic determinism.

## Bibliographic References

### Georg Simmel’s Works

(List of abbreviations in alphabetical order)

- FC* (1984) “Female Culture”, in OAKES, G., *Georg Simmel on Women, Sexuality, and Love*, New Haven and London: Yale University Press, pp. 65-101.
- CTC* (1997 [1911]), “The Concept and Tragedy of Culture”, in FRISBY, David and Mike Featherstone (eds.), *Simmel on Culture*, London: Sage, pp. 55-75.
- EC* (1997), “On The Essence of Culture”, in FRISBY, David and Mike Featherstone (eds.), *Simmel on Culture*, London: Sage, pp. 40-45.
- MML* (1971 [1903]), “The Metropolis and Mental Life”, in LEVINE, Donald N. (ed.), *Georg Simmel on Individuality and Social Forms*, Chicago and London: University of Chicago Press, pp. 324-339.
- QDGD* (1950), “The Quantitative Determination of Group Divisions and of Certain Groups”, in WOLFF, Kurt, *The Sociology of Georg Simmel*, New York: The Free Press, pp. 104-17.

- PM (1990 [1900]), *The Philosophy of Money*, London: Routledge.
- R (1919), *Rembrandt: Ein Kunstphilosophischer Versuch*, Leipzig, WOLFF, K. [(2002). *Georg Simmel on Rembrandt. A Philosophical Meditation on Art*, London: Routledge].
- S&N (1986 [1907]), *Schopenhauer and Nietzsche*, Amherst: University of Massachusetts Press.

### Further Readings

- ARENDR, Hannah (1989 [1958]), *The Human Condition*, Chicago and London: University of Chicago Press.
- ARON, Raymond (1981 [1935]), *La Sociologie Allemande Contemporaine* [German Sociology], Paris: PUF.
- BAUDRILLARD, Jean (1981[1972]), *For a Critique of the Political Economy of the Sign*, St. Louis: Telos Press.
- BECK, Ulrich (1992 [1986]), *Risk Society. Towards a New Modernity*, London: Sage.
- BEWES, Timothy (2002), *Reification or The Anxiety of Late Capitalism*, London: Verso.
- BLUMENBERG, Hans (1963), “Lebenswelt und Technisierung unter Aspekten der Phänomenologie” [World of Life and Technification under Aspects of Phenomenology], *Filosofia*, Turim, pp. 855-84.
- BORGMANN, Albert (1984), *Technology and the Character of Contemporary Life. A Philosophical Inquiry*, Chicago and London: University of Chicago Press.
- DIAMOND, Jared (1997), *Guns, Germs, and Steel: The Fates of Human Societies*, New York and London: W. W. Norton & Co.
- DUPUY, Jean-Pierre (1992), *Introduction aux Science Sociales* [Introduction to Social Sciences], Paris Ellipses.
- DURKHEIM, Émile (1990 [1912]), *Les Formes Élémentaires de la Vie Religieuse. Le Système Totémique en Australie* [The Elementary Forms of the Religious Life: A Study in Religious Sociology], Paris: PUF.
- ELIAS, Norbert (2000 [1939]), *The Civilizing Process. Sociogenetic and Psychogenetic Investigations*, Oxford: Blackwell.
- ELLUL, Jacques (1987), “Esquisse sur les Idéologies de Science” [Outline for Science Ideologies], in JANICAUD, Dominique *et al.*, *Les Pouvoirs de la Science. Un Siècle de Prise de Conscience* [The Power of Science. A Century of Awareness], Paris: J. Vrin.
- FREUND, Julien (1998 [1966]), *The Sociology of Max Weber*, London: Routledge.
- FREUND, Julien (1981), “Introduction”, in *Georg Simmel, Sociologie et Épistémologie* [Georg Simmel, Sociology and Epistemology], Paris: PUF, pp. 7-78.
- FRISBY, David (1992 [1981]), *Sociological Impressionism. A Reassessment of Georg Simmel's Social Theory*, London: Routledge.
- FRISBY, David (2002 [1984]), *Georg Simmel. Revised Edition*, London: Routledge.
- GRANGE, Juliette (2000), *Auguste Comte. Politique et la Science* [Auguste Comte: Politics and Science], Paris: Editions Odile Jacob.
- HABERMAS, Jürgen (1996), “Georg Simmel on Philosophy and Culture: Postscript to a Collection of Essays”, in *Critical Inquiry*, 22, pp. 403-14
- HESS, David J. (1997), *Science Studies. An Advanced Introduction*, New York and London: New York University Press.
- IHDE, Don (1990), *Technology and the Lifeworld*, Bloomington: Indiana University Press.
- INNIS, Harold (1971 [1923]), *History of the Canadian Pacific Railway*, Toronto: University of Toronto Press.
- JANKÉLÉVITCH, V. (1988), “Introduction: Georg Simmel, Philosophe de la Vie” [Introduction : Georg Simmel, Philosopher of Life], in *G. Simmel, La Tragédie de la Culture et autres essais* [The Tragedy of Culture and other essays], Paris : Éditions Rivages
- KLOVDAHL, Alden S. (1993), “Scientific-technological revolution”, in OUTHWAITE, William and Tom Bottomore (eds.), *The Blackwell Dictionary of Twentieth-Century Social Thought*, Oxford: Blackwell, pp. 569-71.

- LAWRENCE, P.A. (1976), *Georg Simmel: Sociologist and European*, Sunbury-on-Thames: Nelson.
- LECK, Ralph M. (2000), *Georg Simmel and Avant-Garde Sociology. The Birth of Modernity, 1880-1920*, New York: Humanity Books.
- LEGER, François (1989), *La Pensée de Georg Simmel. Contribution à l'Histoire des Idées au Début du XXe Siècle* [Georg Simmel Thought. Contribution to the History of Ideas in the Beginning of the XXth Century], Paris: Éditions Kimé.
- LEVINE, Donald (1980 [1957]), *Simmel and Parsons. Two Approaches to the Study of Society*, New York: Arno Press.
- LIEBERSOHN, Harry (1988), *Fate and Utopia in German Sociology, 1870-1923*, Massachusetts and London: MIT Press.
- MARQUARD, Odo (1989), *Farewell to Matters of Principle. Philosophical Studies*, New York and Oxford: Oxford University Press.
- MARTINS, Hermínio (1998), "Technology, Modernity, Politics" in GOOD, James and Irving Velofy (eds.), *The Politics of Postmodernity*, Cambridge: Cambridge University Press, pp. 150 – 81.
- MARTINS, Hermínio (2000), "Ciência, Técnica & Utopia" [Science, Technics & Utopia], *Ler. Livros e Leitores*, n.º 48, Lisbon: Fundação Círculo de Leitores, pp. 63-70
- MARX, Karl (1906 [1876]), *Capital. A Critique of Political Economy*, New York: The Modern Library.
- MARX, Karl (1975 [1843]), "The Jewish Question" in *Early Writings*, London: Pelican Books, pp. 212-241
- MELZER, Arthur M. (1993), "The Problem with the 'Problem of Technology'", in MELZER, Arthur M., Jerry Weinberger and M. Richard Zinman (eds.), *Technology in the Western Political Tradition*, Ithaca and London: Cornell University Press, pp. 287-321.
- MITCHAM, Carl (1989), *Qué es la Filosofía de la Tecnología?* [What is the Philosophy of Technology?], Barcelona: Editorial Antropos.
- MITCHAM, Carl (1994), *Thinking Through Technology. The Path between Engineering and Philosophy*, Chicago: University Chicago Press.
- MITCHAM, Carl (1996), "Cuestiones Éticas en Ciencia y Tecnología: Análisis Introductorio y Bibliografía" [Ethical Issues on Science and Technology: Analysis, Introduction and Bibliography], in GARCIA, M. I. González, J. A. López Cerezo e J. L. Luján López, *Ciencia, Tecnología y Sociedad. Una Introducción al Estudio Social de la Ciencia y la Tecnología* [Science, Technology and Society. An Introduction to the Social Study of Science and Technology], Madrid: Tecnos, pp. 189-224.
- MORABIA, Ariel (2003), "Günther Anders, un phénoménologue de la technique" [Günther Anders, the phenomenologist of technique], *Esprit*, May, pp. 165-74.
- MUMFORD, Lewis (1934), *Technics and Civilization*, Harcourt: Brace & World.
- MUMFORD, Lewis (1956), *The Transformations of Man*, New York: Harpers & Brothers Publishers.
- MUMFORD, Lewis (1952), *Art and Technics*, New York: Columbia University Press.
- NICHOLS, Lawrence T. (2001), "Parsons and Simmel at Harvard: Scientific Paradigms and Organizational Culture", in TREVIÑO, A. Javier, *Talcott Parsons Today. His Theory and Legacy in Contemporary Sociology*, Lanham, Boulder, New York, Oxford: Rowman & Littlefield Publishers, pp. 1-28.
- OAKES, G. (1980), "Introduction", in *Georg Simmel, Essays on Interpretation in Social Science*, Ottawa: Rowman & Littlefield, pp. 3-94.
- OAKES, G. (1984), "The Problem of Women in Simmel's Theory of Culture", in *Georg Simmel on Women, Sexuality and Love*, New Haven: Yale University Press, pp. 3-62.
- ORTEGA Y GASSET, José (1982 [1939]), *Meditación de la Técnica y Otros Ensayos sobre Ciencia y Filosofía* [Meditation on Technics and Other Essays on Science and Philosophy], Madrid: Revista de Occidente en Alianza Editorial
- ORTEGA Y GASSET, José (1983 [1958]), *Kant, Hegel, Scheler*, Madrid, Alianza Editorial.
- OUTRAM, Dorinda (1995), *The Enlightenment*, Cambridge: Cambridge University Press.
- PAPILLOUD, Christian (2000), "Georg Simmel. La Dimension Sociologique de la Wechselwirkung" [The Sociological Dimension of the Wechselwirkung], *Revue Européenne de Sciences Sociales*, t. XXXVIII, n.º 119, pp. 103-129.

- POGGI, Gianfranco (1993), *Money and the modern mind: Georg Simmel's Philosophy of Money*, Berkeley: University of California Press.
- RESCHER, Nicholas (1999), *Razón y Valores en la Era Científico-Tecnológica* [Reason and Values in the Scientific-Technological Age], Barcelona: Ediciones Paidós.
- ROBERT, Jean (1998), "Las Aguas Arquetípicas y la Globalización del Desvalor" [Archetypical Waters and the Globalization of Valuelessness], Comunicação apresentada no *Congresso Ibérico sobre Gestión y Planificación de Aguas*, Saragoça, Spain, 14 a 18 de Setembro.
- SALOMON, Albert (1962), *In Praise of Enlightenment*, Cleveland and New York: Meridian Books.
- SIMONDON, Gilbert (1969), *Du Mode d'Existence des Objets Techniques* [On the Mode of Existence of Technical Objects], Paris: Aubier Montaigne.
- SKLAIR, Leslie (2002), *Globalization. Capitalism & its Alternatives*, Oxford: Oxford University Press.
- SLATER, Don (1997), *Consumer Culture & Modernity*, Cambridge: Polity Press.
- VANDENBERGHE, Frédéric (1997), *Une Histoire Critique de la Sociologie Allemande. Aliénation et Réification* [A Critical History of German Sociology. Alienation and Reification], t. I, Paris: Éditions La Découverte.
- VANDENBERGHE, Frédéric (2002), *La Sociologie de Georg Simmel* [The Sociology of Georg Simmel], Paris: Éditions La Découverte.
- VIRILIO, Paul (1999 [1990]), *Polar Inertia*, Thousand Oaks, California and London: Sage.
- WATIER, Patrick (ed.) (1986), *Georg Simmel, la Sociologie et l'Expérience du Monde Moderne* [Georg Simmel, the Sociology and the Experience of the Modern World], Paris: Méridiens-Klincksieck.
- WATIER, Patrick (2000), *Le Savoir Sociologique* [The Sociological Knowledge], Paris: Desclée de Brouwer.
- WEBER, Max (1979 [1922]), *Economy and Society: an Outline of Interpretative Sociology*, Berkeley and London University of California Press.
- WEINSTEIN, Deena, and WEINSTEIN, Michael A. (1993), *Postmodern(ized) Simmel*, London: Routledge.
- WINNER, Langdon (1977), *Autonomous Technology. Technics-out-of-Control as a Theme in Political Thought*, Cambridge: MIT Press.
- WINNER, Langdon (1986), "Do Artifacts have Politics?", in *The Whale and the Reactor. A Search for Limits in an Age of High Technology*, Chicago: University of Chicago Press, pp. 19-39.