A study directed by

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Sciences with the Science

Des sciences dans la Science

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ATHENA Collection

ATHENA Collection, conceived and directed by Françoise Thibault

Disputatio on scientific policy, considered as an art form, to organise and develop research for the greater benefit of knowledge and citizens.

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Foreword

In the current European environment where the main orientations of research are being redefined, the directors in charge of Alliance decided that it belonged to their mission to foster re-thinking the major principles at the root of the Social Sciences and Humanities, as well as their role in science in general and in Society at the same time.

An approach was accordingly implemented to the concerned scientific bodies and government officials as well as about a hundred individual consultants, from France and abroad, on the basis of their specific capabilities and specialties. While the scheme does not pretend to be part of a logic of representative democracy, as exists in the research bodies and in universities, it undoubtedly has as its reference a form of participative democracy, put at the service of the future of the Social Sciences and Humanities.

Such are the framework and spirit in which the present text was conceived. It is the result of an exceptional mobilisation as

regards the quality of the contributions as much as that of their authors, whose exclusive inspiration was the general interest.

While Alliance would not pretend that the text be representative of the entire French network for Social Sciences and Humanities, it is however in our eyes a contribution to a particularly meaningful debate at a historical moment when a lot is at stake for the future of research. The debate is certainly worth continuing at both the national and the European levels, with no dominance of one instance over another, in the spirit of this Alliance's objectives : a space for exchange and dialogue at the service of all concerned scientific communities.

When referring in the text that follows to their various statuses, the Social Sciences and Humanities are shown in their diversity ranging from humanities to social sciences. This variety should be envisaged, not as an invalidating heterogeneousness but rather as a wealth well worth exploiting at a time when all sciences are moving closer to one another. Indeed, they even are more than ever worth delving into in order to escape from the growing scientist temptation and from the diktats of short-term lures.

The Social Sciences and Humanities are at the core of what will shape up the scientific minds. They are therefore critical sciences, not in the sense of simply denouncing what exists, but rather in the sense of unveiling or perceiving what is hidden or minute but is nevertheless an active part in the constitution of what is human and of how the social world works.

The Social Sciences and Humanities do not shun the question of their usefulness, but rather include it in a wider perspective where this question is not dissociated from questions regarding the conditions of being scientific through the quest of paradigms, theories, concepts and methods. The Social Sciences and Humanities forcefully underline the demand for being scientific-minded. Observance of the rules for producing knowledge will not justify keeping the citizens away from research, that is to say from the question of the conditions of creating scientific information or even the question of the participation of the general public, including their implication in the process of production, dissemination and appropriation of scientific knowledge.

Confident in their own identity, the Social Sciences and Humanities reassert the place which is their own within the phenomena studied by the other sciences in as much as any of the phenomena studied by other sciences, any new technology, comprise human and social dimensions which needs be taken into account as a condition for the success of the objectives pursued.

And lastly, the SSH aim at making a strong contribution to a major issue haunting our societies as much as science itself : the issue of sense in all its multiple dimensions, from comprehension to direction, time-frame, pertinence and ethics.

Such are some of the orientations in re-thinking as developed in the present text aiming precisely and positively to include all the Social Sciences and Humanities into science in general and define a common future for them.

Jacques Commaille

Summary

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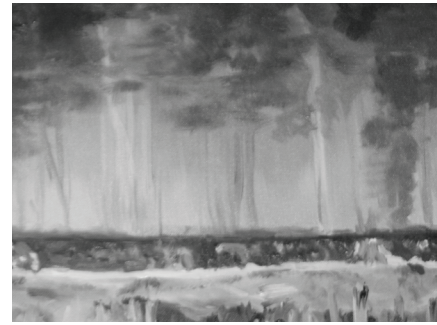

The SSH beyond their primary boundaries

The wide variety in the scope of the Social Sciences and Humanities – from philosophy to literature, religious and artistic studies to historical sciences, anthropology, sociology, economics, the sciences of information and communication, through to the sciences of politics – allows for them to conjure up convergences, to bring to the fore what they share and are liable to put in common in order to contribute to the treatment of questions relating to the complexity of the real world and the human minds, and, at the same time, questions concerning physics, technologies or techniques relevant to other sciences.

Such an intent in the putting together of knowledge and competences is founded on the conviction that the old opposition, inherited from the Nineteenth Century, between sciences of the spirit and natural sciences, feeding the debate between comprehension, used for human phenomena and explanation, used for natural phenomena, has long ago passed away.

Social Sciences and Humanities, from archaeology to linguistics are inter-connected with techniques and questions coming from the natural sciences or information sciences, whereas the latter are deeply committed – from medicine to data-processing technologies or physics – to hermeneutics or historicist issues.

Social Sciences and Humanities play a full part in redefining the role of sciences at the very heart of our society. We aim at showing the link of their intellectual project with those from other scientific disciplines. It is not a question of promoting the SSH, but rather to establish their role in certain scientific fields as a project for elucidating man, society and the world, making no distinction of order or dignity and starting from a common ambition for methodology, review and progress, serving a common ambition for knowledge and also for social purposes.

The sciences within the SSH make the world more intelligible. Their objects are laboratories where techniques and methods are being tested and which can be transferred elsewhere. The explanatory work is therefore up to the researchers in the SSH to deal with.

The significance of literary studies, inherited from philology, hermeneutics or rhetoric, of historical and archaeological studies or social sciences, is not only their ability to convey a cultural tradition to feed social engineering or brighten up a humanist vision of ourselves. It is also putting into the spotlight decisive intellectual operations on essential achievements of our contemporary world.

For instance, managing information flow, in its cognitive but also practical dimensions, from the emergence of big data to the issues of selection, archives, hierarchy that are dealt with downstream, is fundamentally an issue bringing us back to philology, archives and archeological knowledge.

The cognitive, medical, data-processing sciences or the physics deal permanently with hermeneutical, sociological or historical issues. The most complex linguistic or literary studies on the most deficient data are privileged grounds for elaborating on these questions, together with the worlds of arts, philosophy or music.

Beyond these necessary intellectual operations, the SSH contribute to making the world intelligible through a broad education of the minds, through a rational understanding, through elaborating a grasp of the complexity of reality and through the creation of meaning, that of human action and the evolution of societies.

2

Societies, sciences &Social Sciences and Humanities

Three evolutions should be stressed upon if one wants to think the place of Social Sciences and Humanities in their relations to other sciences and to human societies.

The first evolution concerns the field of knowledge addressed by Social Sciences and Humanities.

On the one hand, over the last decades, the SSH have established their ability to work in an interdisciplinary way, especially to analyse the various questions of collective identity, of the making of private universes in reference to

public spaces, of social and political structures and cohesion and of processing the building of new citizenships.

On the other hand, the SSH have brought many proofs of the fact that 'natural' issues (resources, climate etc.), and technological issues cannot be separated from issues regarding the subjectivity and agentivity of the individuals, taking into account their ways of creating collective organisations with their vision of the world, inspired by the past, immersed in the present and marked by different ways of considering the future.

All the efforts accomplished to assert the identity and to establish the boundaries of the field of the SSH have led to new perspectives on collective work, where the main objectives are to reach a knowledge in reference to the issues our societies are addressing today.

Such is, for instance, the whole project of the Maisons des Sciences de l'Homme initiated in France at the beginning of the 60's and generalised at the end of the 90's.

The second evolution refers to the sharp question of the statute of science. The confrontation is intense between a science called 'Science of Nature' which aims at integrating human dynamics and a science which can be described as a 'Science of Measurements', stronger than ever, which reduces human beings to a few observable and quantifiable phenomena.

For the first ones, the human being is explicitly part of the causal chain of nature, through transformations which, willingly or unwillingly, lead to the world he or she lives in. Science is then considered a human production and an activity which must be permanently questioned in the names of its responsibility towards the humans and of the impacts it can have upon them. This science tends to give the SSH a major role as compared with what it used to have in former schemes.

For the latter ones, the human being is an object just like any other, that an omnipotent science would eventually be able to decipher completely. The immanence of such a science shelters it from permanent questioning, so that many SSH disciplines are refused any scientific status because of their too close acquaintance with subjectivity and creativity.

The third evolution concerns the integration of scientific and technological breakthroughs in a new model for regulating societies, the latter being considered in its societal, economic, legal and political dimensions. The advancement in sciences, its multiple impacts on humans and on societies do not suffice to define the idea of progress and even less so to generate confidence in the future.

A progress that would not include the many components of a society nor confront the world as a whole cannot be considered as such. It arouses, more today than in the past, defiance, hostility, disqualification and even rejection (possibly together with the rejection of the democratic social model), if these

questions concerning the meaning of problems are not met and possible solutions to solve them are not defined.

It is in that sense that radically diverging conceptions of what is modernity and the place that should be given to science confront each other in human societies.

A refusal of sciences for the benefit of beliefs could be an answer to the vision of an omnipotent science. However the historical process of supranationalisation and transnationalisation, the imbalance in the way spaces are occupied (growing urbanisation, dismantling of social spaces etc.), the dents in the living together (rise of 'singularist' societies), the uncertainties in the networks of socialisation and in the sharing of current and future resources, as well as the ecological problems, all show how indispensable it is to develop the practice of a global, open and reflexive science that would transcend disciplinary boundaries inherited from past centuries and give the great achievements of the of SSH a status of knowledge to be shared by all researchers.

3

What regime of knowledge to confront the worlds' complexities ?

The historical context of a world in mutation justifies more than ever the importance of the SSH and the role they deserve to play. The world's changes have made it both enigmatic and opaque : enigmatic, because most of the main post-war political landmarks, the technical systems, the globalisation of the large corporations, the evolution of the peoples, their migration and their increasing mobility, the development of supranational entities, the regimes of knowledge and innovation have mutated.

Opaque because these transformations cannot be measured with the existing scientific tools. They require new research

configurations in which Social Sciences and Humanities are already involved.

Within this context, there is a need to address a new regime of knowledge for the Social Sciences and Humanities, to underline a triple requirement prior to any commitment in the scientific field, with a medium and short-term program, and all of that in accordance with the 'challenges' our societies are confronted with.

This triple requirement consists in a review of (i) the SSH's own identity, (ii) the requirement for reflexivity that affects their epistemological base and their theoretical developments, (iii) the implication of the SSH in the mobilization of knowledge concerning other sciences in the light of technological and scientific programmes.

A plural identity

The SSH present a rich array of hypotheses, of paradigms, of methods and of pluralistic practices that are its strength. This diversity can be observed in objects, theories and methods envisaged by the various disciplines, such as the constant public reaction that is to be found outside academic circles. Such pluralism is a considerable asset for a society which is precisely aiming at being pluralist and innovative.

This asset is all the more important if it is accepted and valued as such, as a resource for post-industrial democracies and as a tool to help them to define and locate themselves.

The Social Sciences and Humanities are marked from the outset by the transformation of significations experienced in a universe of objective significations. Such a feature makes it interesting to realise the fact that we talk of both Social Sciences AND Humanities. The intent actually consists of reporting as accurately as possible the reality of human action in the world, whilst leaving open the question of being. Philosophy has played and continues to play a pioneering and essential role, thanks to the rigour of the questions it poses. The scientific approach and the interdisciplinary openings it creates amongst the SSH and far beyond, make the SSH appear as the 'natural spokesperson' for the sciences of life or the sciences of matter.

By becoming more and more autonomous one from another (philosophy, sociology, history, linguistics, etc.), the SSH respond to a logic of specialisation while diversifying the intellectual work and developing empirical surveys as well as data treatment methods.

The credit for this diversity is reflected in many ways and only a few will be exposed here :

- Research on artistic, linguistic, cultural practices and activities are linked to the understanding of the evolution/

transformation of our societies and of our cultures throughout the world. This ranges from the study of non-human primates to the cultural diversity throughout the ages, in order to grasp the emergence of our anatomies, our behaviours (locomotion on two feet, feeding habits, cognitives associated to language etc.), our structures, our knowledge.

- The historical sciences are able to bring a chronological depth, wide or narrow, to contemporary phenomena. They remind us that human societies have passed through major evolutionary phases, widely driven by technical and scientific innovations. The methodologies they implement try to objectify the past in order to restore its complexity. They offer the society the means to find a way through the various possible interpretations of the common past.

Social sciences, in a general way, are focussing on the new realities and the new representations of the territories, on the new forms of appropriating the spaces (the world's urbanisation for instance) on the various shapes of life together, with the threats on social cohesion, on new facets of governance and political mobilization, on the interrogations about canonic procedures for establishing democracy and the springs of economic life appearing under Janus's double face : the face of omnipotence and the face of social and political imbalances that it generates...

Far from weakening the SSH, the wide variety of approaches and methods has become a very positive asset since, while emphasizing the singularity of their respective epistemological base, they have reached the point where they are now competing amongst themselves and with other sciences.

Their pluri disciplinarity in this task of unheard-of mobilization leads to innovative configurations and concrete responses to the questions asked by current societies, with an indispensable attention to the new demands of the democratic dialogue whereby the citizen is the 'stakeholder' of science.

A demand for reflexivity

The work for identification comes together with a permanent reflexive work on production conditions, on testing the knowledges themselves and on their status in a democratic society. The SSH's new configuration must be marked by the ability to do this reflexive work. Room has to be left for re-orientations and sometimes for the radical re-defining that might result from it for knowledge regimes. This is in order to apprehend the phenomena and complex systems that identify the 'challenges', and to overcome problems thanks to the refining of critical tools – in the scholarly sense – all of which allows us to escape the illusions of an enchanted world, just because it is called that way, or to fall into the easy trap of ideological denunciation.

One of the contributions of the SSH is the demonstration that the economic phenomenon cannot be confused with the thinking patterns of the eponymous discipline. One has to clearly distinguish the economic phenomenon from the models that one calls 'economic'.

This operation goes far beyond the traditional distinction between economic and social sciences. The division tends to keep the strict correspondence between phenomenon and model, whereas one has to accept that there are social models of the economic phenomenon as much as there are economic models of social phenomena.

For instance the phenomenon of financial 'securitisation', one of the amplifying mechanisms to the sub-primes banking crash, is not understandable if one simply wonders whether the titles were 'well or badly evaluated' by an economic model. It is as important to understand how the many actors and stakeholders, the listing of which is in itself a research object, could generate management rules, on a planetary scale, which made the 'securitisation' possible in spite of its disastrous effects. Only when this analysis is done can the question of 'well or badly' evaluated be asked and put into perspective according to the various protagonists in the phenomenon.

The epistemological mutation at stake is of the same order as the birth of chemistry for the study of matter. This has led to making a clear distinction between the phenomenon of 'matter' and the physician's analytical models.

The mutation also explains with hindsight why the many attempts in widening the scope of economic sciences by adding other disciplines have not altered this discipline's central hypotheses. It is more scientifically relevant to assess that the economic phenomenon falls within several economic modelisations coming from economy, sociology, management sciences or other disciplines such as philosophy. The mutation particularly highlights two fields which are two major challenges for our societies : the corporate crisis and the mechanisms for innovation.

The implication

Intellectual innovation, the intelligibility our societies have of themselves, diachronically and synchronically, the construction and the development of democratic communities which are open and able to integrate the past into the present without forgetting the social constraints, are the decisive result of research within the SSH. And it is this social usefulness that founded the place of the SSH in the 18th and 19th Centuries, in the wake of the Age of Enlightenment and was continued when the modern disciplines were born.

In that way, the supposedly 'applied' research in the SSH is more of an 'implied' research. The categories and the hypotheses must be tested on historical and social situations and on interactions between humans. The latter then re-appropriate the categories and hypotheses, which in turn

become parts of the social life. In the final analysis, these implication abilities for making hypotheses on social life guarantee the research validity.

Even in the most formalised theories (economics for instance) the test-bench of the theoretical bases remains of this type. The "fundamental" research cannot pretend to be a simple 'application', which would be ancillary. The supposedly 'applied' research to this or that issue of society is only fertile if it is an 'implied' research, which would also allow for a review of the base of the problems.

To take an example, innovation demands : a) to think about how revealing such a test can be if using implicated research. b) without letting social prejudice hinder the creativity of the innovative processes since, c) innovation comes from society as often as from the researchers, who must therefore be mindful of the alterations in the constraints that these shoots of social innovation can bring with them.

Creativity implies what some people have called 'free research'. Indeed if research hypotheses are modelled according to the current representation of the social issues, their conformity to social situations will bring no validation as it will have been preconditioned rather than allowing for a free trial.

4

To what avail?

The faces of purpose

Much has been written or said regarding the society and the economy of knowledge. It has often been described by an image of a three bladed propeller representing the transfer of knowledge from the laboratory to the factory or to the office and on to daily life. In this momentum of transformation, producers of knowledge are subjected to strong disturbances and their role is as essential as it is changing, always moving. The triple propeller introduces a breakup in the way we should consider SSH and the role they play. Although we stop a little

too quickly with the idea of transfer as the application from conception to practice.

In this respect, the fields of intervention of the scholar in SSH are composite : whether as 'the expert', the 'translator', the 'action searcher' or the 'committed searcher'. The multi facetted interventions of the SSH researcher, and the dissemination of the hypothesis and conclusions are many. Thus there is no need to be concerned about the applicability of their contributions and mobilisation in meeting the challenges for the SSH.

The requirement of a detour strategy

Any consideration of the progression in the process which leads from the production of knowledge to its uses eventually leads to the conclusion that SSH, no more than any other science, can be guided by a principle of utility, all the more so when these utilities are of a short term nature and are referenced by the sole interests of the period in progress.

As with other sciences, the research utility can stem from a 'detour strategy'. This 'detour strategy', well documented in the cognitive development, goes through fundamental research building theories, taking uncertain paths and new analytical configurations, making improbable encounters with other disciplines, before a possible return to the action.

As much as with other sciences, categories of knowledge should be developed autonomously according to the standards of a practice, of an action marked by current representations be it public, European or international, inspired by the promotion or the defense of a cause.

The making of new society models

The value of SSH lies in their explanatory, analytical, comprehensive, creative and projective virtues. They are intrinsically implied sciences not applied sciences. To acknowledge this value, as seen above, consists in making possible the invention of new society models, of living together and creation.

Depending on the situation, the concerned disciplines must criticize or accompany public procurement. In the most favorable situations, historical sciences address this request by accompanying or criticizing the realisation of projects directed by a public authority (national, regional or European). However, in a democracy, policy makers would profit from listening to the propositions, grounded hypotheses, explanations backed by methodologies (that scientists set against a narrow and instrumental conception of science) within a relationship that should be of mutual trust.

More generally and beyond historical sciences, scholars have always found a legitimacy with politicians. This position

was not a matter of principle of utility (although it was referred to as 'political technologies') but rather as a matter of acknowledging their specific regime of knowledge. This was the base of their plurality (and therefore pluralism as a complement to knowledge) and the variety of their methods and approaches which guaranteed their diagnostic ability as a critic (in the sense of crisis : to decide), insuring through their analysis and capacity to define the conditions of the democratic debate and the variety of viewpoints.

Interaction between society, research and education

In the relationships between research and action, what is relevant in the link between political power and public procurement is also relevant in the relationship with society : the gender issues, the variety of sexual orientations, colonial and postcolonial situations, the environmental alert or the request for an opening in the economic sciences. These questions have inspired research fields within the higher education and research system at the cost of militant mobilisation. Researchers have forced the gates of universities and legitimised these new research fields which often remain nonetheless vulnerable. We are therefore confronted, subject to critical awareness, with a normal regulation mode of the higher education system. Any research and education system closed to such practice is a disintegrating system. The difficulty for universities then, is not to produce new specialists working

in relatively closed circles but to be able to circulate the knowledge produced amongst many disciplines.

Today more than ever an education in Social Sciences and Humanities is indispensable for all students to master the complexity of our world, to put the objects studied into perspective and allow for an inter-sciences dialogue.

Possessing abilities of abstraction, as mighty as they can be, is not sufficient to shape today's scientific mind. There is a 'knowledge drowsiness' if one does not permanently ask questions and a well prepared mind for abstraction is not free from a tendency to return to the remains of old beliefs. Famous mathematicians have been the proof that too much 'mathematism' leads to irrelevant measures and senseless quantitative descriptions. It is imperative to curb the process currently at work in university curricula which could lead to the end of the humanities.

Critical distance and time imperative

According to SSH it is also a way, starting from a demanding and critical vision of research - when projecting itself or when it is projected into the future, to escape the 'wishful thinking' syndrome, particularly perverse when starting from problems other disciplines have not managed to solve. The predominance of research frameworks implicitly implies that efficient SSH should be able to find solutions to human

and social issues and eliminate difficulties within 4 years. The use of available recipes is encouraged when, in fact, the real need is the opposite, to question the prerequisites : relative to operating facts, interrogations and the problems presented.

It is often more pertinent to look for the sources of imbalance rather than balance, the sources of conflict rather than peace, of frenzied violence rather than appeasement, irrational rather than reasonable emotions or obstacles to social cooperation rather than their potential for success. The non analysis of resistance, failures, or blockages can only but encourage incantatory speeches in favour of a world in progress and only lead to impotence. In short, it is indispensable to be given the time required to analyse the dynamics represented in the contradictions and the tensions inherent in the making and the functioning of societies.

Important themes can only be raised if the cultural basis, made up of the identity, the resistance, the historical momentum of societies, are analysed and if the economic and social problems associated to these challenges are dissected and a solution, even partial, be found. It is important to stress the nature of these problems amongst which the destructuration of the social relations and public authorities, induced by the double impact of the globalisation of trade and scientific and technical transformations.

Language requires special vigilance. To take a few examples in the subject of environment, references to ‘climate change’

instead of 'global warming', or 'adaptation to climate change' instead of a 'fight against global warming' or else to be concerned about 'the environmental awareness of economic agents and citizens' without considering politicians' refusals or powerlessness to act or on certain industries' pressures, brings a risk of understating the resistance.

Research must make the time for this language distance, the researcher is not the expert in this field. Instead of the expected questions, he will rather explore new paths. For instance thoughts that the relationship between environmental protection and economic development are an *a priori* is to suggest that there are two distinct domains. One could ask the question whether the economy could not be integrated into ecology and the various human and non human forms of life in the sense that any relationship with our universe must be the subject of calculation. A calculation with its political dimension that is to say a debate where values and aims will not be separated from scientific analyses.

The logic of this equilibrium might reproduce the stereotype of the protection of the environment against the economic development. In fact, their cooperation should be spotlighted since this is the ground for better resource management and innovation guided by the very principle of environmental preservation.

Another example is in the field of health : it is important to create the right conditions to question the many presuppositions

regarding on going research (as any other research field), their interaction mode with patients, the patients' lifestyle and the care systems in order to explore new opportunities. Likewise, much clinical research which would not normally take into account and test the position of the patient in this loop would be incomplete, as they would choose a priori a therapeutic scheme however limited it has been shown to be. Many subjects, such as the AIDS treatment have shown the importance of the publics' participation for the advancement of knowledge.

These examples call for SSH to stand the test of time in a double posture. The first, like with any other science, producing data and analyses on all phenomena falling under the social sphere. The second, putting the various regimes of knowledge that are important in a society into the spotlight. With no approval, nor pure objection, they act on deciphering interpretations, controversies and practices in order to strengthen public debate. The adoption of such a critical distance aims at the cumulation of knowledge susceptible to open new research fields. As near as possible to the social, economic and political transformations, and to invigorate the public sphere.

Nourishing the democratic ideal

In a more general way, the status of scientific and technological transformations in relation to the citizen deserves to be analysed in another way than from the 'top down' perspective.

The approach by acceptability and not by the appropriation and participation of the citizen not only proves mean and insulting but also inefficient. Many major problems today come from a disconnection between centres of decision, regulation and living environments, together with an insufficient implication of the citizen. To pose the problem of participation in terms of 'a citizen to educate' is a major political and normative statement and an obstacle to the comprehension of what is actually taking place.

Rising education levels, learning how to contribute through digital networks, massive dissemination and availability of contradictory expertise are some of the many signs of a major change taking place in the decision making process. Scientific and technical uncertainties are no obstacle but rather a spring board for scientific activities and the notable political impotence in front of contemporary crises, strengthens this feeling of uncertainty. Purely rationalist analyses of the processes leading from science to decision and action are facing the limits of knowledge (known unknowns / unknown unknowns), the building up of ignorance, the difficulties of decision making in an environment of uncertainties and controversies. Public decisions are facing new criteria: common property, environmental and social utility, responsibility. They must include and acknowledge citizens competences: democracy's definition being the governing of participation for all on an equal basis with no distinction related to their level of knowledge in the fields where decisions are made collectively. They must take into account the development over decades of multiple and

competing, consultation schemes, and try to include public decision makers, scientific experts and ordinary citizens in the elaboration of relevant and renewed public criteria.

Decision support in the construction and evaluation of public policies cannot use a purely technical expertise, nor analysis tools that proved to be inadequate in contexts where epistemic, ethical and political imperatives are stronger and stronger.

It becomes essential to take this situation into account to imagine new forms of participation that would take the publics' contributive capacities, who do not suffer from irrationality nor unsufficient information, but of loss of confidence in the authorities who are viewed at best as incompetent at worse as accomplice (example of financial or ecological impropriety). The study of methods used to gain power (empowerment) that is the capacity to act through various collectivities, to create new solutions for controversial problems, must be reinforced within a dialogue with scientists, engineers, decision makers and citizens, providing they are given the time to experiment and to learn.

Today's development of pluri disciplinary works in social sciences, especially in legal research, gives us an example amidst others. These works concern the use of legal resources – civil law, criminal law, commercial law, industrial property law, international law etc. – or that represented by justice (national or supranational courts) on questions regarding the mastery of certain scientific evolutions (for instance in physics,

biology, genetics, in agro business and environment etc.).They take into account the growing aspirations expressed by the organized forms in the civil society, at national or supranational level, and should be associated to the role of science and their impact.

French research is currently focusing on theoretical streams such as law consciousness (in reference to a law being part of the society, present in citizens' daily life) or of cause lawyering (management by law professionals of 'causes' supported by action groups possibly coming from the world's civil society). Another focus is the requirements in healthcare knowledge or legal protection for knowledge or products coming from traditional societies and in opposition to pharmaceutical groups.

The development of research on gender and sexuality, very significant in France over the last years, is also driven by the democratic emergency to take women into account as a 'datum' in the constitution of knowledge (in history, law...) and as equals. Gender is an example, exceptional in three ways, of a scientific concept formed by a crossing of interdisciplinarity and disciplinarian fields created by the transformation of a social movement in a field of research and critical analysis of a globally unequal situation. It includes SSH and other sciences: integration of the idea of 'sex difference' in the field of health (tests on drugs), but also in the fields of engineering and environment, has been the source of several significant recent developments. Controversies about the so called 'gender

theory' have illustrated certain tendencies of scientism quick to denounce as 'ideology' or even 'anti science', scientific innovations which have an effect as social criticisms and democratisation .

These new fields of research illustrate the analytic work that the new democratic requirements have called for when faced with scientific and technical changes.

5

Sciences with the Science
The obvious porosity

The SSH implication in the production of knowledge is potentially so broad that they do not stand next to other sciences but are closely connected with them.

The SSH communities, thanks to their ability to take the uncertainties and the complexities into account, must play a wider part in a scientific policy broader than their proper fields, because their objects are borders and hybrids. Prudence (in its Aristotle's meaning) is necessary when it comes to innovation policy. Thus the SSH are no peripheral matter, they are not involved in giving afterwards 'a little extra soul' to other sciences nor in being summoned to the mere function of an acceptability tool for what scientific or technological progress

dictates. While keeping their specificity, they can take part in the progress of other sciences. A lot of the major programmes can only be achieved with the SSH's participation (especially in the fields of health, energy and climate...)

Sciences including the SSH, throughout the long movement of ideas of the last century, have successfully developed specializations allowing for a development of in depth knowledge, and then developed new approaches whereby complexity, interaction and non-linearity have fed the construction of thought and knowledge, While simultaneously taking into account time and space.

The SSH provide the formal tools to think complexities. They are thus in the best position to provide comparison scales based on rigorous and distinct methods, according to objects and disciplines. They more and more bear in themselves the ability to discern and differentiate the diverging interpretation possibilities of the obtained results, that theorization will otherwise tend to neglect.

Sciences are most of the time challenged on grounds which belong in fact to the SSH's competence. However, it can be seen that the technological or experimental sciences' approaches regularly prevail, although the main natural, physical, technological issues our societies are confronted with, those so-called 'society challenges', always involve social, economic and political dimensions, the lack of which might lead to failure or impotence.

To give just three examples, the questions of environment are mostly approached via physical or biological problems, whereas their main determinants are human activities. The issues involved in these questions cannot be dissociated from questions of governance (including the acceptability of public action policies) and must take into account various scales, from global to local.

Similarly, the exploitation of soils and natural resources for feeding purposes or to produce biomass needs arbitration. These questions have political implications. They require choices which of necessity must at least guarantee that all options remain open.

The SSH's multiple mobilization on different stakes is all the more necessary as it should be confronted with the complexity and the interdependence of these issues. As a second instance, the questions concerning the management of resources in a sustainable development perspective, can only be tackled and treated while considering interactions and 'feedback loops' at stake within complex systems (eco-systems, and socio-economic systems) and between these systems. On top of an interdisciplinary approach, at the interface between life sciences and earth sciences, these questions require the promotion of genuine transversal problematics.

The challenge of food safety is another good example. It should not be tackled without including the concern for a sustainable management of water and soils supplies of the planet's

farmlands. Yet the fast and uncontrolled development of an agriculture dominated by finance or business under various forms ('land grabbing', speculation on crops and products, excessive intensive methods etc...) is a vector of resource downgrading (soil, bio-diversity, agricultural food products) as well as the people's well-being and health. The whole chain of interactions between ecosystems and economic systems must be investigated.

The energetic transition challenge needs to develop an SSH agenda considering the socio- technical dimension of technologies, in order to focus the analysis on the various dimensions of the formation processes for the technological potentials. It matters to cast a broad look into the technological options, including those not seen today as priorities, and into their communities and the relevant debates, if one is really to support the transition.

The researchers in SSH, as in other sciences, are more and more conscious of such a needed interpenetration of scientific problems, including the competence of both parties. It is significant that the new global vision of science which the SSH adhere to, is more and more carried by institutional projects or programmes.

In the framework of this global vision, it would be inconceivable to imagine scientifically to treat the issues that France and Europe are confronted with, without including them in a broader perspective including the non-European and

non-Atlantic culture zones. This is one of the SSH's major fortes, notably humanities, in France. It is one of the conditions of any claim for universalism. The knowledge of languages and civilisations, the understanding of oneself and others, of cultural mind-frames and religious dynamics are considerable assets, if we are to understand a globalization not to be reduced to financial fluxes and economic and information flows. Those are not to be a mere dissemination of a unique model. On the contrary, they are liable to generate competition strategies between the dominating groups having an impact on the financial imbalances and nurture them.

To include space and time, a behaviour consubstantial with the SSH, is inseparable from a vision of the future world. The study of classical Antiquity or Middle Ages texts, for example, gives clues to reconsidering our analysis of the dominating family model over the past two centuries. The social and political usefulness of research is, in this case, to underline and understand the variability of the family models throughout history. The French historical sciences, through their interest in facing the globalization of scientific and scholarly exchanges, are keen to take a specific view at other societies.

The SSH have for a long time carried an often learned questioning over the bases of the western civilization, whose implicit foundations and impacts for domination are henceforward to be re-examined. They are at the present time crossed by the question of and the demand for a 'de-westernization' of the SSH.

Thus, the SSH allow for a differentiated approach to the development of knowledge and culture as well as a de-dramatization of cultural relativism. One of the most notable advances in contemporary philological researches is in effect the recognition and the rigorous deepening of the differences between literary and theoretical practices created by particular linguistic universes. In this perspective, phenomena about translations as well as conceptual transfers, confront incommensurability and untranslatability, or even sometimes surprising convergences which permit to challenge a few certainties. The discovery of non-western literatures and the emerging domain of postcolonial studies, change the deal and will allow for a new evaluation of our cultural hierarchies.

Like other sciences, the SSH are without boundaries, be they geographic or intellectual. On the latter aspect, it illustrates the development of the activity field as they were considered in the 21st Century as inextricably linked to culture and science: performance practices, performing arts, artistic creation, architecture and design belong to research as do musicology and visual arts, ensuring diversity and de-compartmentalization of research in humanities.

The interdisciplinarity allowed for a re-dynamization of research, mostly absent from universities : dance, voice, work and re-creation of sounds... the new technological and digital orientation of musicology are at the forefront of international development in these fields.

Emerging cultural objects such as performance practices and performing arts in general, applied instrumentalization, study of the musical gesture and of improvisation are a hot-bed of creativity for sciences as much as innovation of humanities.

Research today must incorporate the variety of contemporary innovative forms, which include the performing arts and performance practices – all that allows for a movement in hierarchies and traditional intellectual certainties, a disruption that always has been the source of progress in humanities.

Global SSH

The paradoxical effect of globalization is that globalization could make believe that efforts to enter the world's societies through their languages and their long history have become pointless.

In fact, globalization invites us to think differently, to get out of methodological nationalisms and to imagine what the Social Sciences and Humanities could be, not only taking them in the era of globalization, but taking them also in the logics of globalization. Should it be reminded here that French historical sciences long ago tackled these questions of movement and globalization on a regional or a world-wide scale (for example for the Roman world and East Asia) ? To think global is to take an interest in planetary logics and articulate that level of analysis to other regional, national and global levels. It is

also to focus on the evolutions of contemporary laws, on the birth of a 'global law' which, to a certain extent, is a substitute for international law, and sometimes complement it, and on the formation of social, political or cultural objections on a world-wide basis such as alter-globalization movements. This is also putting migratory phenomena into the light of globalization, and not only with the view of a normative integration to such or such host community. It is also trying and understanding how supranational institutions develop in terms of justice or economy for instance, as in terms of regulation of the energetic production or action on the climate. It is also putting the networks at the heart of analysis, be they dependent on the internet or on other information technologies.

What is called 'global change' refers us to the co-dependence of the human and social world AND the nature and earth world. The integration of the SSH allows for a complex and global analysis of concepts and normative bases underlying the interpretation of global-change based risks. Collective and individual decisions processes in societal emergence situations support public policies, taking into account the data coming from the civil society's 'stake holders' and creating new social, sanitary, environmental indicators. It allows for a broadening of the research scope through the reinforced practice of space and time comparisons, including extremes, the taking into account of conceptual innovation, from the loss of bio-diversity to spatial law, from crisis situations to vulnerability, from individual and collective capabilities to gender inequalities.

The co-dependence, the corollary of which is that local phenomena have more and more global consequences, cannot be apprehended without taking the emergence and self-organizational phenomena into account, which belong to technical, social, economic and environmental phenomena. Concepts and methods coming from studying complex systems are fundamental in that sense, if one is to give society a grip on phenomena tending to acquire their autonomy.

In accordance with their vocation, the SSH's ability to be located both in time and space predisposes them, as suggested by their innovating contribution to remote works through time and space, to confront knowingly and in coordination with other sciences the 'challenges' and the issues of the contemporary societies and their projections of future transformations, be they natural, technological, social, political or cultural.

Mobilization of science and society

The societal challenges express global emergences and difficulties, i. e. questions to which research should bring, if not answers, at least analyses or orientations for action : climate change, natural resources management, energetic transition, human and environmental protection, flood of 'big data' and their treatment, sanitary risks in a global economy... on which a mobilization of the whole science stakeholders is necessary.

The concept ‘societal’ is to be understood, as seen above, not as the domain of a discipline (the SSH), but as a human and social dimension of science. The project is not to integrate the SSH to other scientific sectors as an immanent complement to each challenge. Beyond the existing actions and structures, one has to operate a qualitative and quantitative leap within the articulation and the integration of competences and contributions of diverse origins (for example, for the energetic challenge : physicians, energeticians, chemists, but also sociologists, economists, political scientists, landscape, environment and architecture specialist and researchers etc. as well as industrialists, small and medium-sized companies, associations, collectivities) beyond any implicit hierarchies of academic standards.

During the 20th century, biology was revolutionized by the development of microscopes. At the 21st century, the convergence of ‘big data’ and high performance calculators provides new tools to all sciences. Through the mediation of whole segments of social activities by data processing methods, new types of data (ex : social networks, GPS tracks, utilization of web service data, ‘crowd-sourcing’) and data of an unheard of richness are at the disposal of researchers and society. Together with the technological innovations and the development of new standards for studying complex systems (integrating several levels of organization and multiple time and space scales) this qualitative and quantitative transformation of our relationship to things social is probably one of the keys to our understanding of global social

phenomena. Such a coupling implies an important synergy between the SSH research and the research on complex systems, as well as pooling competences and infrastructures at a scientific community scale. A deepened reflection on the societal upheaval that these macroscopes inevitably bring with them is therefore necessary.

Conclusion

The regime of knowledge for Social Sciences and Humanities have gone through several major transformations. The previous regime was mainly characterized by a tendency to create exclusively critical theories and on an alignment on a few major paradigms. Of course the various human sciences were present, but they were also very fragmented into disciplines and sub-disciplines contained in the traditions of knowledge and knowledge fields used as instruments of legitimization of impassable boundaries. While they did not exclude reflective work, they were mainly mobilized against the risk of instrumentalization, as the often quoted distinction made by Max Weber on the vocation of scholars and the vocation of politicians can attest.

The regime of knowledge now in force in education and research is marked by a will for inter-disciplinarity based on acquired experience and clear theoretical positions. The de-fragmentation inside the social sciences brings to light all the intellectual benefit resulting from the ability of scientific training and scientific approaches, to liberate themselves

from disciplinarian pillars coming more from the effects of traditions than from methodological imperatives. The opening of certain Social Sciences and Humanities beyond their natural perimeters in higher education and research brings them to entirely different standards. It requires the appropriation and the crossing of scientific reasoning related to studies on matter and life. That is why this second type of opening generates the most important movements, but can only do so on the basis of localized and mastered protocols. Neither approaches, internal or external, could proceed from merely lifting a barrier, without any other goal than the ideological commitment to the principle of opening.

The conditions for innovation (cultural, historical, social, organizational, economic) thus always need to be put forward in transformational research. The complex dynamics of social and economic changes cannot be separated from the study of societies (social practices, knowledge sharing, information and participation schemes, new actors mobilization). Thus, one has to work on the real obstacles to change : inequalities based on nationality, gender, social stratification or social origin, asymmetric access to information and knowledge. The human sciences do not rely on limiting the humans. They rather refer to their ability to create, this capacity being at the centre of production of economic wealth. Such a creation ability implies the possibility of detours, allowing for improbable encounters, including surprises (invention, creation), free of any directives.

An innovating society must have put together an educational, scientific, cultural and political system which fosters innovative approaches: one cannot expect to find a island of technical and scientific innovation in the middle of an ocean of traditional and routine behaviours. There is no a priori reason why a society should refuse new ideas, unless they do not correspond to the aspirations of an important part of its population. The role of the civil societies, and no longer that of the sole experts, must be studied and taken into account in the production of data and reflections influencing research orientations. The data analysis methods, the efforts for extracting pertinent information, the interventions of the various stakeholders in decision making, have rendered obsolete 'evidence based' decision approaches, based on individualist deductive models, which in their time represented a progress as opposed to intuitive techniques.In many social organizations, it is the multitude that is productive, promoting innovation and collective dynamics and questioning the researcher, who no longer can shut himself in his ivory tower. To confront the societal challenges through the defence of unprecedented collaborations and interactions between scientists, businesses, associations, communities and all stakeholders, will promote the dynamic evolution of a science, all the more open because of the respect of its fundamentals, principles and practices.

The magnitude of the current social, economic and institutional crisis leads us to open the perspectives, avoiding non-historical reductionism, authoritative normativism and all national or European-focussed approach. The abundance

of scientific production and the organization of educational systems favour the very well defined specialties. Confronted with the crumbling of knowledge, education has more of a structuring mission than ever. It is fit to encourage all measures aiming at providing the students with a culture indispensable to develop a critical mind. Research on education must be re-launched. It must deal with the increasing inequalities and must examine the failures of the educational system, and explore new resources for education. Double degrees and inter-disciplinary degrees in the SSH and other sciences should be created to correspond with society's major challenges.

As any other science, the SSH are carried by the dialectic of the capitalisation of the huge masses of experience and the renewal of their paradigms and methods. The dialectic is all the more subtle today, as it constantly obliges one to avoid the weight of tradition (reassessing tried and tested theoretical frameworks which are no longer relevant to today's realities) and circumstantial writings (essays, editorials, which can be objects for science but not for scientific productions). The new evaluation practices of today's scientific work can discourage in depth studies and incite the use of 'disciplinary fields' where the distinction between opinion-based texts and scientific literature is weak. The disciplinary downturn is supported by these practices as much as those encouraging geographic fragmentation. It is up to the scientific community to regain the upper hand in this matter and to suggest, in a renewed dialogue with the institutions, some better suited approaches with regard to the scientific exercise.

The efficiency of the whole system depends on a harmonious cooperation between three types of performance, always keeping in mind that care should be taken not to invest any of the three with a superior legitimacy: patrimonial performances, which guarantee the quality and the efficiency of a reasoned work on conservation, classification, reconstitution, translation of the cultural heritage of humanity; incremental innovations, which demonstrate the cumulative nature of the results they produce, and are able to distinguish simple repetitions, from the threshold effects produced by the broadening of knowledge on the one hand, while on the other hand relying on this distinction to change the approaches and methods; innovative performances encouraging unexpected experiments and questions that teach us positively to manage risks involved in exploring the unknown.

Beyond Social Sciences and Humanities, the evolution of societies invites us to restore the concepts formulated by the first social science theorists, who designed the figure of the 'engineer' largely influenced by an education open to humanities. The time has come to put an end to the hyper-specialization of the researcher and teacher. Other paths are to be promoted so that male and female scientists avoid the pitfalls of intolerance, dogmatism and scientism

5 action principles for research in Europe

1. Re-install the question of the link between education and research at the core of scientific policies, by promoting education on the HSS in all sectors.

2. Support research projects taking into consideration the needs of long term scientific interests.

3. Reinforce the competence circulation schemes between the various scientific domains throughout the European territory.

4. Support the HSS research infrastructures to the level of the digital challenges.

5. Accompany the vast potential of the young researchers by offering them new professional opportunities.

Steering Committee

Alliance ATHENA's Steering Committee brings together more than 50 scientists working on structuring and guiding of the HSS research in France. They met twice in a seminar in the years 2013/2014 in Paris and Caen. This document would not have seen the light of day without the reflections, questions and discussions of the participants of the seminars:

Arnaud Pascal Professor - Université de Lyon 2
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Sciences with the Science

A study directed by
Jacques Commaille & Françoise Thibault

In the current European environment where the main orientations of research are being redefined, it is fit to reconsider the general principles underlying the Social Sciences & Humanities and their place in Science and Society.

The need for a fruitful dialogue between sciences in order to cope with the major challenges of today's world invites us to bring again to the fore the figure of 'the engineer' as largely open to humanities.

Beyond any specifically scientific consideration, the SSH are addressing anew the question of the purpose of our societies and of the way they will evolve.

This study is the result of an exceptional gathering of searchers and scholars. It aims at restoring the SSH back into their deserved position and at promoting male and female scientists dedicated to avoiding the frauds of technicism, dogmatism and scienticism.

Jacques Commaille, Professor Emeritus at Ecole Normale Supérieure de Cachan and President of the Orientation Committee of Alliance ATHENA.

Françoise Thibault, Program Manager at the Maison des Sciences de l'Homme Foundation and General Manager of Alliance ATHENA

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