Idiosyncrasies of research
(after,

on,
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according to, by, for, until,

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with, next to,
below,
before,
in) **art.**
Notes on saboer.

— Juan Luis Moraza

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I would formally like to thank the organisation and the audience for making this meeting possible, and also to point out that my words in this congress on the Research Career in Fine Arts are precisely a way of saying thank you, of turning those initial words into the very core of the question about the relationship between art and research. So, thank you. It is a privilege for me to be able to stand here, to repay the privilege of having been recognised in my two-fold capacity: as an artist in the field of art and as a university researcher. Gratitude confirms the free nature of all that matters. Free because fortune is unpredictable and unrelated to any logic, and because it is not a transaction, it is priceless, something that cannot be paid. It is really extraordinary that this gift can also be a career, whether in the arts or in research: paid enjoyment can be the opposite of turning art into merchandise and research into bureaucracy. All categories, methods and people are put on hold every time someone dares to discover and to create ...and are restored every time they are recognised. My gratitude refers to that long period of recognition in which research and art, insofar as they are a social game, are confirmed, even if that double and parallel recognition – art and research – makes explicit the difficulty in achieving the integrated recognition of art as research.

Juan Luis Moraza

I General current aspects of research

To inquire, create, unveil, discover, invent, and express: these are pleasant tasks at the psychic root of desire for art and research. When curiosity, the spirit of the game, the questioning turns into a career – in the dual sense of professionalism and pursuit, competition and eagerness to win –, those pleasant and free inquiries are fed back into the complexity of the values of use and change. It is then difficult to think about research without addressing certain characteristics of our cultural, technological, social, institutional present times.

I.1. The idea of University in the logic of cultural capital.

Culture is a system of transmission by non-genetic procedures, through material and immaterial elements that catalyse learning processes seeking reproduction and repetition. The more despotic, the more a culture will want that self-replication to be seamless with no changes, for which it will create learning systems, artifacts, stories, rites, myths, doctrines, techniques, and coercive, instigator or seductive systems. This is the reason why anthropologist Edward T. Hall warned that all culture is, in itself – by its exclusiveness and latency – dictatorial. Due to repetition and contingency, to what is mandatory and what is not forbidden, the degrees of freedom are the cause and effect of cultural diversity.

The university appeared in the 12th century as a corporate consortium of teachers (consortium magistrorum) who aimed to be amply independent from the real powers of the Church and the State. However, under that corporate drive was a desire to gain enough freedom so that no authority could control free thinking, in order to prevent the transfer of knowledge from being a dogmatic indoctrination or a mere mechanical exercise. This decentralisation, linked to a passionate search for knowledge beyond dogmatic acceptance, led to a situation that inevitably enabled the emergence of new ideas, new desires, new forms of organisation, new powers. For eight centuries the university was not only a place of transmission, but also a relatively autonomous knowledge-producing place, or at least one sufficiently autonomous to allow the development of lines of thought and sensitivity not dictated by external authorities (religious, political, economic), broadening the space between the not-prohibited and the not-mandatory. Nevertheless, the alleged neutrality of knowledge is based on the not so neutral myth of scientific truth. Due to its cognitive and technical power over reality, science has gained strong cultural legitimacy to the point that it has become an omnipotent (control technologies), omnipresent (an extensive fully ubiquitous and technicised world) and omniscient (epistemic indisputability) account of the truth. Its power to predict and produce has made it an important tool of progress and control over nature and society, particularly through the fruitful relationship between technoscience and capitalism, and, finally, through the so-called "life sciences". This accord between technique, politics and economy has found a privileged place of legitimation in scientific knowledge. The undeniable legitimacy of (techno)science (and techno-art) in cultural capital societies thus hinges on substantial changes in the University. These changes seek an artificial selection of research and teaching associated with fields of industrial production and immediate profitability, in the interest of social service, in keeping with real needs, and in the interest of functional efficiency. Once converted into a legitimating abstraction, the notion of "society" becomes the expression

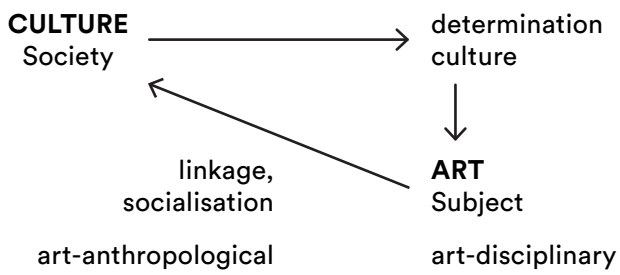
of power: in the real market of financial economy, research calls for implementation and domination. What we light-heartedly call "research and development", R+D, and also "research, development and innovation" (R+D+I), is not only a way of promoting inquiries, but also, and above all, increased industrial adequacy: in a society vectorised by corporations and finances, the promotion of knowledge, research and innovation is done according to the interests of the financial and corporate sectors. The didactic link is, therefore, in keeping with the teaching industry; research is converted into industrial development, and the university itself becomes part of the vast industry of experience.

The needs, desires, problems, and social and personal commotions are not always solved through industrially reproducible objects. As the human and clinical sciences have shown, objects are often produced not so much as to solve problems, but to block them out under the inert glow of merchandise, merely enclosing and dampening the symptoms. In any case, the field of humanities and arts will hardly be able to develop in the industrial field, in spite of there being a particular cultural industry and a paradoxical industry of experience. Financial economy is not neutral in relation to the population and its experiences: translating the desires, wishes, needs and uncertainties to signifiers and objects would mean converting the subject into a simple reproductive agent of the industry, into a mere and useful intermediary between an initial unsatisfactory and another new supposedly satisfactory object in an unstoppable chain of perpetual dissatisfaction. Where the lines of work in research are guided, through aids, allocations, infrastructures and personal investment, by financial or political interests; when the very University is subject to those interests, it is obvious that other lines of work – outside the sphere of the industrial, financial or political expectations of profitability – are surreptitiously marginalised and abandoned. Regardless of economic gains, the anthropological losses resulting from this industrial adequacy of research are immeasurable. As knowledge is deemed neutral, at the service of technology, politics and economics of advanced capitalism, so are technology, politics and economics reduced

to a system of controlling material, human and environmental resources. From science as a field of knowledge to technological industry as a conduit for unilateral research; from human training to professional training; from the University as an autonomous centre for the production and transmission of knowledge to a didactic industry ancillary to a mere adequacy and labour integration. And, in a nutshell, from art to culture industry.

ART	**VISUAL CULTURE** (techné)	(culture industry)
SCIENCE	**TECHNOSCIENCE**	(technological industry)
UNIVERSITY	**PROFESSIONAL TRAINING**	(didactic industry)
human training	labour adequacy	(professionalisation)
RESEARCH	**I+D+I**	(industrial adequacy)

This implies a pre-university regression: making the transition from a University as a place of free transmission and production of knowledge to a University as the last stage of Professional Training. Human training (addressed to the individual as a universal figure common to all mankind, therefore, subject to the human rights – and duties –, that is, to the determinations of race, language, religion, sex, etc.) and civic formation (intended to form citizens taking part in a rule of law, a race, a language, a country, a religion, a social class.), are confined to mere work and, therefore, ideological adequacy, to a behaviour exercise.



"Art is what we do; culture is what is done to us" (Carl André)

I.1.1. Capitalisation of knowledge and temporalisation of knowledge.

The development of capitalism has led to what today is known as "knowledge societies" (P. Drucker), or "cultural capital" (M. Castells). The capitalisation of knowledge, a characteristic of our time, is just an internal consequence of the building up of the logic of surplus value. Surplus value is equal to the unpaid work that capitalises on the difference between production yield and costs. As Marx noted, the logic of surplus value transforms market economy into a financial economy oblivious to the laws of supply and demand. From value to surplus value, from production economies to service economies, there is a process of capitalisation of value, capitalisation of knowledge. Capitalising work leads to the final promotion of immaterial work. Thus, "knowledge societies" are not defined by the central role of knowledge, rather by the capitalisation of knowledge, replaced by units of information and units of value. In this context, public interest is replaced by conditioned audience shares, public service is replaced by public spending, and social service is replaced by the public company. The incremental development of the capitalisation of value therefore implies the depoliticisation of politics, the decommodification of the economy and, finally, the disregard of the public domain as such. Moreover, this development undoubtedly implies a growing financial concentration proportional to an exacerbated public and private indebtedness. Knowledge, research, the university and art will be redefined according to their place within the construct of public assistance. The university will no longer be considered as a cultural breathing space where knowledge is generated, the place where society through its learned men reflects on, generates alternatives, and suggests possibilities, but is rather a process of industrial training or a sociopolitical exercise. Inquiring will therefore tend to become an industrial development system[1].

1_ This is considerable in both the processes of European convergence in the field of Education, clearly oriented towards the promotion of applied research subsidised by private sources, and in the latest ministerial changes (March 2008) that have made the Spanish university dependent not on the Ministry of Education but on the recently created Ministry of Science, Technology and Innovation, geared to enhancing the business-induced research. This association ill-treats all Humanities, and in particular the Arts. This strangling is even tougher for the Faculties of Fine Arts since the enactment of the Decree now under study, according to which the Vocational Schools and other Colleges will be able to offer a level equivalent to a "degree" – and thus the direct access to Masters' and Doctorate programmes – without adapting to the quality requirements set by the laws of European Convergence. It is as if the 30 years of efforts made to adapt artistic teaching to the university had not even existed.

The logic of advanced capitalism takes this momentous communication forward, by which the interest of financial inertia claims to speak on behalf of society, turning not economy, but a certain financial discourse into the fundamental vector around which development models and research directions are generated: in the name of public service, industrial, financial and political profitability replaced the search for human, social, anthropological profitability. However, industrial, financial or political profitability do not necessarily coincide with or imply social profitability, and not even sociometry can guarantee a measure of human profitability. Society itself is a great scientific abstraction very different from the people, their misfortunes, their joys, their concerns.

The capitalisation of work also entails the temporalisation of knowledge. Research will be one of the forces of the cultural army against the backdrop of financial wars of knowledge societies. Military research no longer has to be at the forefront of research, for war is no longer a continuation of politics by other means, but politics is a continuation of economy by other means. This financial economy assumes the capitalising force of research, consequently it will put development and innovation at the forefront of its strategic objectives, as it is an economy based precisely on the acritical inertia of this surplus value acceleration. Time requirements are not aligned with adequacy needs, but rather with the struggle for financial competence.

I.1.2. Precariousness and hypertrophy of industrial research.

As research is subject to industrial and financial demands, the more the research teams must grow internally until they reach an industrial dimension, enabling the

performance of tasks that would otherwise be impossible to be undertaken. And while it is true that individual research is somewhat limited in its development, it is also true that a work of art is almost always done individually for no futile reason. The biggest problem of a highly organised research establishing the duties of the individual scientist is that they are a huge and heavy piece of machinery that cannot easily change its course to meet the changing needs of the world of ideas. This eventually causes an epistemological barrier.

Moreover, very large research structures are an increasingly important requirement to receive funds, since the administration tends to favour them, sidelining small teams, even though this does not guarantee or deliver better results or improve methodologies. These very large research structures also lead to administrative conventions disproportionate to their aims, and to the persistence of and increase in the worst forms of hierarchy.

The precariousness that young researchers face is not only professional, due to the scarce and insecure contracts, but also comes from the university, from administrative burdens, work inertia, ranks – not based on knowledge but rather on power, on priorities, or even on the interferences of university policies. The fact is that the scientific/university authorities are not always the best experts, but rather the most established within a system of territorial conventions. When knowledge is no longer at the root of university authority, recognising young researchers becomes a problem, and the obsessions, fears and whims of the all-powerful can prevent the growth and development of young talents. In the field of art, this precariousness is even more noticeable, as the supposedly scientific requirements tend to cause stark methodological damages. Economic and job precariousness, industrial, financial and functional (finalistic) adequacy, and administrative hypertrophy are real barriers to research. But, on the part of the researcher – public or private – these forms of precariousness occur along with others typical of the research field, linked to epistemological obstacles arising from categorisation, specialisation, cognitive subordination, etc.

I.1.3. Continuous research versus controlled research.

"the controlled or directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole" (J. Dewey)

Research, in art, means intensification and inquiry. It involves psychoperceptive methods, technical methods, formalising methods, transmission methods, but does not necessarily imply adapting to some kinds of conventions of a "project". It is often difficult to convey the important difference between projects and artistic processes. The project presupposes coherence based on predetermined aims and methods, and a possible review of achievements. Artistic creation is unlikely to be limited to this logic, even in those cases in which artistic conceptualisation reaches its peak, since the subjectual factor and symbolic complexity turn any predetermination into an obstacle to development. Artistic inquiry is less part of the controlled and finalistic, more prototypically scientific research, and more part of a kind of continuous research. Artistic creation is more a process rather than a project. Let us take two examples distant enough to define the full spectrum: on one hand, we have what sculptor J. Oteiza called his "experimental purpose", a perfectly formalised research project, at least in its approached and methods, and with a purpose-determined, conclusive nature; on the opposite end, we have what painter P. Cezanne called "my little sensation" to refer to that subtle, yet strong experience that led him to systematically paint Mont Saint-Etienne in a remarkable manner. No one can deny the invisible project underlying Cezanne's inquiry process in that "little sensation", or even the psychic and expressive process, the impulse drive underlying the deliberate Oteizan "project". The type of projective process or process-based

project of art runs between the conscious deliberation and unconscious latency. It is imperative to recognise that process-based dimension to cater for the development of artistic inquiry, so as not to confuse the research project with discursive conventions that are never sufficient or necessary.

I.2. Epistemological pitfalls and resistances.

"Knowledge of reality is a light that always casts a shadow in some nook or cranny." (G. Bachelard, 1974: 187)

The problem of the relationship between research and art is two-fold, where it relates to research or where it has art as its object or method. This is not only a question of considering external obstacles, such as the complexity of phenomena, or the weaknesses of the senses and of human cognition, or the institutional flaws, lack of infrastructures, overabundant superstructures in the same act of knowledge. Inadequacies and flaws appear manifestly or latently, which are the manifestation of subjectivity and collectivity. Each attempt at categorisation is based on a personal and cultural ground that tends to singularity, but which can also prevent certain preconceptions from seeing the light of day. In scientific development, the desire to achieve objectivity should even be allowed to be redirected in order to find its conditions, to formulate epistemological, meta-theoretical questions.

I.2.1. Epistemology as an epistemological obstacle.

Any field of knowledge achieves maturity when it is able to formulate epistemological questions (intrinsic matters), when it is able to threaten its own methods, its assumptions, its foundations, its regimes of verification and falsifiability/ refutability[2], its congruence models. Without this epistemological questioning, knowledge seems primitive, disorganised and limited by personal or cultural prejudices. However, as Einstein noted – hardly against research –,

2_The term *falsificacón*, will be translated as refutability. For a clearer understanding of the term see *II.1.2 Conditions of Refutability.*

> "no sooner has the epistemologist, who is seeking a clear system, fought his way through such a system, than he is inclined to interpret the thought-content of science in the sense of his system and to reject whatever does not fit into his system. The scientist, however, cannot afford to carry his striving for epistemological systematic that far".

For the epistemologist, the researcher appears as an opportunist with no consistency, no legitimacy. In a true process of research, it is difficult not to find situations in which epistemological requirements must be left aside. For the researcher, the epistemological may be a bureaucrat of knowledge, lost in the pitfalls of mediation and adequacy.

Epistemology has adopted the "hard" sciences as a model of knowledge from which to measure the relevance of a cognitive action. However, the epistemology of science is not a science: the theory of scientific knowledge is a kind of non-scientific meta-science that involves philosophy, logic, cognitive biology, psychology, etc. Even if epistemology adopts the model of science to legitimise itself as a fundamental interdiscipline, the fact that science is its object of knowledge in no way guarantees the scientificity of this meta-science. It cannot cater for its demands, but by adapting to a reasonable logic it gains a privileged position from which to turn any experience

into its object of knowledge. When this object is science, the reputation and legitimacy of science subsequently suits the legitimacy and reputation of epistemology.

Epistemology has thus been considered a science, a philosophy, and furthermore, authors such as C. Ulises Moulines have proposed to raise this meta-science to the category of art. The application of the logic-discursive model, however, finds insurmountable limitations in experimental operations. Until epistemology redefines its methods according to the complex nature of knowledge, it will be an obstacle to research and, in particular, to any sensible essay on research and art.

I.2.2. Research and the semblance of research. Appearance and parody.

The privileged position of epistemology as a "knowledge science" has provided the perfect excuse to introduce not only supposed methodological requirements, but also more and more administrative requirements, thus confusing the research with its semblances. An authentic research is a process of investigation which derives from a "felt difficulty" (Dewey) and finds a suitable style, method, pattern and development system for each specific circumstance. Confusing the research with its semblances means attempting to identify the research in elements such as language, morphology, taxonomy or syntax of argumentation – however inconsistent these may be – adopting them as symptoms of the research itself: methods (statistical), references (charts, information, data), techniques (viewing equipment of production and reproduction), rhetoric (lexis, syntax of argumentation), whether these make sense or not, by agreeing to certain formulas (syntax: 2+3=9) instead of the necessary formulas (suitability between syntactic structure and content: 3-1=2). This agreement

of semblances is yet another form of "intellectual deception" (Sokal): a specialisation in protocols allowing substantial results in what is insubstantial and fundamental errors in fundamental issues. Undoubtedly, it is simpler for the newcomer or the administrator to identify the research based on appearances by confirming research content or result consistency – which requires full knowledge of the research area under study. However, compliance with requirements – essential to obtain recognition, legitimacy and funding –, on occasion, is unnecessary and insufficient. In addition, this may result in a pseudo- or unremarkable and pointless research. Therefore, it is possible to identify three levels of research:

(a) a cognitive research, informed or pure, aimed at obtaining knowledge and understanding reality;
(b) a technical or applied research, aimed at observing specific functions, industrial applications and patenting;
(c) a protocol or administrative research, aimed at financial justification, protocol representation and curricular improvements.

Obviously, these three research methods are not independent, but their differences are helpful to assess the proportion of each one in each particular case.

I.3. Anti-relativist inertia and willingness of simplicity.

Science has indeed suffered profound epistemic questioning. Kant warned about the paradoxes involved in the drastic impossibility of verification, because in order to prove the correspondence between a given category and the real aspect to which it refers, it should be possible to approach reality without the mediation of these categories. John Dewey (*The misery of epistemology*) showed the impossibility of suppressing the cognizant subject in the cognitive operation. Thomas Kuhn (*The Structure of Scientific Revolutions*) showed how paradigms

determine media, areas of research and developments. Paul Feyerabend (*Against Method*) challenged the assumptions of scientific rationality, for reality operates and acts differently outside scientific experiment, and compared researcher and artist in order to delegitimise science. Donna Haraway (*Simians, Cyborgs, and Women: The Reinvention of Nature*) noted the authoritative non-neutral voice underlying the metaphorical languages of science. Bruno Latour (*Science in Action*) proposed a new scientific (inter)subjectivity based on negotiation. P. Galison & C. Jones (*Picturing Science, Producing Art*) showed how, even in the scientific field, representation itself can influence conceptualisation and research processes. Finally, Karl Foester recalled that we are not aware of external reality, except when functionally perfecting our interactions in real situations.

These questions have led science to a technical, methodological and epistemological reassessment concerning cultural complexity and relativity, and to attention being paid to non-linear processes, strongly dependent on initial conditions, with a high level of randomness and a degree of interactions unaffected by estimates, in which quantitative issues are impregnated with qualitative issues. This change in scientific awareness suggests two important methodological repercussions:

(a). A minor reduction of variables and a more systemic, relational and contextual thought.

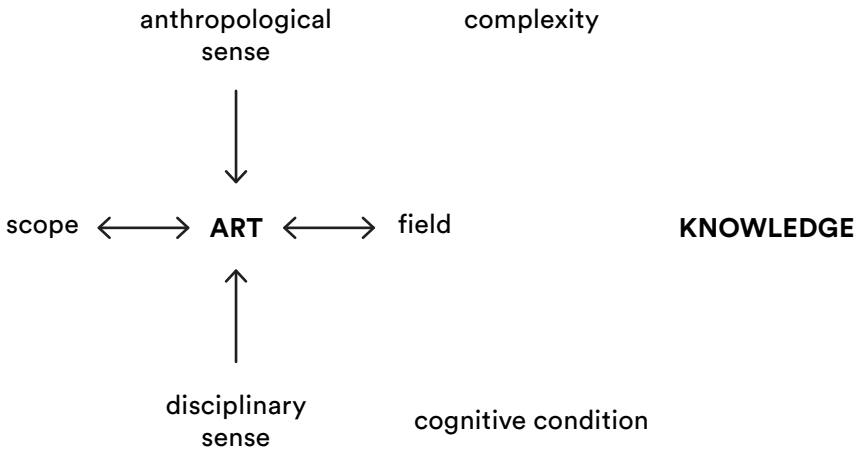
(b). Recognition of the subject's involvement in the cognitive operation, meaning a relativist awareness and a softening up (and deprogramming) of objectivity and subjectivity myths.

The level of inclusion or exclusion of the subject has historically determined the relevance of knowledge. Gustavo Bueno distinguishes between (a) the situation of scientific areas in which terms, simple or complex, the cognitive subject is not formally present (Physics, Chemistry, Molecular Biology, etc.), and (b) the situation of scientific areas in which terms the cognitive subject or their equivalent

are present (Human Sciences, Psychology and Ethology).
In addition, these two situations lead to two methodologies:

> (α). operative methodologies: scientific methods in which the operational subject is not considered present. These methods allow a determinate science to achieve greatest scientific relevance.
>
> (β). operative methodologies: methods within social sciences in which the operational subject is considered present (with implications: apothetical relationships, phenomena, principles).

According to Paul Ricoeur, "*practical knowledge is knowledge without observation*", and this is its guarantee for success. And von Foester claims that "*objectivity consists in the illusion of those who believe observations can take place without an observer*", otherwise the subject's involvement will convert knowledge into an opinion conditioned by personal or cultural prejudice. Notwithstanding, art is knowledge with an observer and observation: what it offers is a non-neutral point of view. Aspiring to a α–operational situation pushed for the emergence and development of science as well as conditioning several schools in the area of social sciences. In addition, within the context of academic artistic education and research, this situation created the fantasy of an artistic discipline capable of excluding subjectivity. But not even subjectivity is subjective, since it is predetermined by cultural contexts and symbolic systems. And objectivity is not objective either, for it is conditioned by subjective aspects and cultural patterns. The truth is that inter-subjectivity as well as inter-objectivity (P. Buchanan) should be the starting point in any area of knowledge.



The new circumstances and awareness coincide with a unique moment in the history of sciences. Science obtained its power of prediction and effective production by reducing the operational number of its variable, but the spectrum of its contextual awareness and complexity of interactions brought sciences to a more complex and systemic expansion. Sciences not only consider art an admirable counterpart or an eloquent illustration but a model of knowledge that from the perspective of contemporary science should not be taken in vain. Complexity sciences frequently adopt artistic images and examples to illustrate their new strategic models and, increasingly, cognitive biology and neurology have been taking art as a privileged example to understand scientific imagination and human cognition in general. In this historic moment, within the context of art comes a paradoxically unfavourable situation to convergence and collaboration: overly immersed in the singularity of the art world, only the academic context connected to art is prepared to test this collaboration and benefit from this unique opportunity. At this point, the pseudo-scientific requirements of the alleged suitability of art to the university would be meaningless, just as the forefront of scientific research is trying to learn from art.

II. Specific aspects of art in relation to research.

"I consider an artist to be someone who produces works of art; a scientist the one who produces scientific studies; an artisan or technician someone who makes or executes dextrously within a circumscribed vision; a technologist, someone who creatively implements the general principles of art or science; a manager, someone who handles the products of artists, scientists or others for specific purposes. These are logical classifications but their limits overlap, for one man can, from the point of view of his work, belong to more than one category". (H. G. Cassidy. 1964: 19)

The historical demand of coexistence between art and science within the University does not imply indistinguishability. It is not a question of explaining why art and science are very different areas, but why the problem of their differences and similarities occurs within the context of academic discussion. As Catherine Goldstein suggests (2000),

"This is a two-fold question. One relates to the conception of art and science as different in the first place, a necessary prerequisite to consider each of them as the other's "paradise" lost, and their dichotomy as a deathly gap in our civilisation. The other entails favouring identity over difference."

The artistic and scientific ethos share several aspects, especially if we compare the arts with the initial stages of scientific research. Both include careful observation

of the world, creative events and views, purpose of transformation, use of abstract models to understand the world and aspiration to create universally relevant works. However, there are also significant differences, albeit proportional, because true investigation, in any field, comprehends the entire spectrum of the cultural subject:

Artistic Ethos	*Scientific Ethos*
observation	observation
preparation	research
integral	partial
emotion	reason
boldness	prudence
motivation/bond	verification/refutability
search for an aesthetic	search for knowledge
answer	normative
idiosyncratic	logic-textual communication
sensitive communication	explanatory
evocative	operational reduction of
operational integralism	variables
realisation	reversibility
synthetic	analytical
revisitable (presenciality)	irreversible (progress)
syncretic spirit	critical spirit
β-operative methodologies	α-operative methodologies

careful observation of the environment
purpose of introducing changes, innovation, creativity
use of abstract models to understand the world
aim to create universally relevant works of art

While models are used in art (metrics, paradigms, prototypes, canons), as well as classifications (taxonomies, typologies, decompositions, groupings), definitions, demonstrations (works), trying to compare works of art with scientific work as if it were some kind of translation between a poem and a theorem is nevertheless questionable:

"When to the new eyes of thee
All things by immortal power
Near or far,
Hiddenly
To each other linked are
That thou canst not stir a flower
Without troubling a star;"
(Francis Thompson)

$$F \text{ gravit.} \propto \frac{m^1 \; m^2}{S^2}$$

(Isaac Newton)

These differences point to a substantial difference between knowledge – a notion linked to the definitions of the epistemology of science – and learning, as the notion linked to humanistic aspects.

Learning	***Knowledge***
experience	experiment (finalistic)
transfers emotion	transfers knowledge
the whole world feels the poem	only the scientist understands the formula
immediate relationship with things	knowledge of things
representational	descriptive
implied (personal observation)	neutral (observation without the observer)
"*truth to*"	"*truth about*"
(intensification and ties with an operative subject, as being included in the formulation)	(reduction of variables, including the operative subject, excluded from the operation)
β-operative methodologies	α-operative methodologies

II.1. The legitimacy of art in the scientific/university context.

Plastic arts[3] were only introduced in the university context very recently, a 30-year time difference only compared to the century-old tradition of scientific fields. The development of the university went hand in hand with the development of subjects such as medicine, physics exact sciences and, later, social sciences. Besides, this is not a unified field, and the methodological and epistemological differences between the distinct branches of the university show irreconcilable disputes, even within each discipline. Thus, the creation of the Faculty of Fine Arts in Spain in 1979 brought with it a radical change in education in Schools of Fine Arts. The University had to assume an irreducible experimental character and the teaching of art had to assume its impossibilities and resistances, and try new modes of approaching. Adapting to the university structure led to the increase of discipline awareness, to a more complete training in terms of culture, to an interdisciplinary versatility the result of which can be seen in the improvement of research production and in the training of artists, most of whom come from the university. Nevertheless, this adaptation was not sufficiently acknowledged or transmitted, and the sense of inadequacy persists as much as the beliefs in the typical methods of "hard" sciences".

3_ respecting the author's etymological and epistemological preference for the concept of plastic arts rather than visual arts.

Both higher artistic education and artistic research rely on a body of remarkable work, but this university recognition does not seem to imply an explicit reconsideration of the very definition of the university, capable of integrating the new modes of scientific sensitivity and the new contributions from the Fine Arts. The lack of knowledge of the nature of art in university structures often involves comprehension difficulties that result in regulations that only make it difficult for Fine Arts to compete with other branches of knowledge. Belonging has not led to legitimacy, or legitimacy has not led to a match between structures and university administration

and the educational and research practices of art. The "*clear awareness of our inevitable inadequacy*" (J. Biggs) forces us to reconsider our own conditions of production, but this has often resulted in certain efforts made by the management bodies of the Faculties of Fine Arts to be accepted into the university context, by compromising with models and structures extraneous to and even incompatible with the nature of the arts. The pitfalls of such a compromise include the acritical adoption of research aspects, of protocols of consistency and rigour typical of science.

Recognising art as knowledge does not imply that such recognition is delegated to an "Epistemology of Art" regarded as a specific branch of General Epistemology associated with the theory of scientific knowledge. This would: (a) require a certification of certain conditions of relevance and refutability that would be impracticable, in and about art. And (b) it would give art a subsidiary and propaedeutic place, "impertinent" as knowledge, as "paleo-knowledge", as the "sublimation of knowledge" (Wagensberg), or simply as "intellectual impostures" (Sokal).

II.1.1. The epistemological resistance of art.

The resistance to consider art under the category of "knowledge" will not, in any case, imply renouncing to a certain cognitive tension, a certain cognitive commitment that *Sabœr*[4] has with certain expectations of knowledge. Quite the contrary, the category of Sabœr assumes simultaneously a cognitive commitment, and a commitment precisely with the very limits of knowledge. As a β-operative field, art privileges subjective aspects. The great myth of art as an irreducible experience of analysis comes from the importance of that subjectual ingredient, and from the cultural interest in maintaining a residual amount of sculptural and incultural dimension. And precisely because it is a β-operative field, art has sacrificed

4_ Neologism formed from the contraction of the terms Knowledge (es. *saber*) and Taste (es. *sabor*). Moraza details and develops this conceptualization further in the text. See II.2 THE SABŒR OF ART.

applicability and intelligibility in exchange for the intensity and complexity of the experience. As if epistemological resistance was a requirement of the very inquiry, of the indisputable nature of free genius. Since classical Greece the mythology of art has been associated to the unfathomable in the light of scientific culture development, and has merged into a double 'complex of shamelessness' and 'epistemological shamelessness', resulting in a dual effect: (a) of a disciplinary entrenchment, (b) and of acritical assumption of scientific models.

One of the developments of modern art linked to the furtherance of knowledge has enabled and promoted the notion of experimental art that even adopts the scientific model of research until it promotes a form of art that consists in a clear scientific presentation:

> "Art consists of placing this activity (research) in the context of art". (J. Kosuth)

> "I do not present mathematics as art, but I present mathematics and other scientific disciplines for they are, i.e., pure knowledge as such" (Bernard Venet)

This experimental model has produced positive artistic results, but also new academic modes that replace art with a culturally predictable and logical representational production. Probably the awareness of this perversion was what warned Picasso about the applications of the notion of research around art:

> "I do not see why so much importance should be attached to the idea of "research" in painting. [...] The idea of research has often made painting go astray, and made the artist lose himself in mental lucubrations. Perhaps this has been the principal fault of modern art. The spirit of research has poisoned those who have not fully understood all the positive and conclusive elements in modern art" (P. Picasso)

In any case, it is not a question of repudiating the notion of research, which would renew the epistemological shamelessness of art, or of assuming without restrictions external models, renewing the shame. The university opportunity of art imposes the possibility of overcoming this dual complex. Overcoming the epistemological resistances of art can thus turn into an epistemological discussion that includes challenging the limits of epistemology in relation to art.

II.1.2. Conditions of refutability.

The notion of falsifiability/refutability (Popper) refined the classical scientific notion of verification, assuming the limits and irreducible provisionality of any scientific category. Nevertheless, the notion of refutability maintains the centrality of the issue of truth (the axis of paradigmatic relationships), while the issue of artistic truth belongs less to the paradigmatic field than to the pragmatic field (uses). Field (epistemological) and contextual conventions (scientific community and scientific institutions) in art are linked to emotion and to the consensus systems of the artistic community and the world of art, respectively. These processes of artistic refutability involve a complex system of recognition, that include a number of agents who complete the social spectrum: (a) other artists, (b) cultural intermediaries who introduce the works in discourses and in history – art critics, art historians –, (c) the entities who present the works in terms of heritage value – museums, collectors, art market –, and (d) the general public (A. Bowness). Refutability, in each of these social levels, calls for experience, for social habits, customary law, expert knowledge. The diversity of these conditions of refutability brings in a degree of complexity that can easily be taken for "absolute relativism". However, artistic refutability is done through an endogenous, self-immune circularity, rather through a system of social negotiation whose bodies are regulated reciprocally, including the full range

of personal emotions and social ties, semantic aspects (linked to the paradigmatic value of representation), syntagmatic aspects (linked to th structure, to the categorial syntax present in the works), and paradigmatic aspects (linked to uses, perceptual, emotional, categorical and cultural effects).

II.2. The Sabœr Of Art.

Almost all the words of Indo-European origin related to acts of knowledge refer to a close and non-neutral link between a subject and a world. "Conocer" [to know] (γιγνωσκειν, γνωσις) is related to "engendrarse" (γνωσις), under the root γν (gen), from which the "co-nacimiento" (*cognoscere*) derives, since to know is to become one as another. Similarly, "cogito" (*co-agitare*) refers to a reciprocal agitation, through which the subject and the object are mutually mixed. The drifts of scientific knowledge and the epistemology of science have often forgotten that mutualist reflexivity that removes all neutrality from knowledge.

The scientific notion of knowledge can only be used under certain limits, because being aware of the lack of neutrality is inevitable in art. The limit of science is the subject, the blind spot of observation. Art starts from this blind spot to turn into its centre, and the construction of models is built around it. This situates art in an *éxtima* position (Lacan) in relation to science. *Éxtima* means that its exteriority is intimate, as it is found in its formative nucleus, but at the same time involves a radical challenge. In fact, art refers to a pre and a post philosophical and pre and post scientific knowledge. In this sense, I would like to recall three connected terms, to the extent that words are lenses and through them we can observe the experience that has created them:

The word "art" (*ars*) finds its opposite in the word inertia (*iners*): art assumes an articulation that harmonises, integrates, unifies,

mobilises and activates. Inertia, in turn, is a resistance to a change of state, so it is the opposite of art, the opposite of life.

The word "*ciencia*" (*scientia*) comes from a notion of knowledge based on escisión (division), on fragmentation, separation, that begins with the epistemological division by which the observed object is differentiated from the observing subject, and then moves onto distinguish objects from one another in the most clear, distinct and functional way possible.

Finally, the word "knowledge" (*sapere*) is prior to the philosophical difference between intelligible knowledge (on which the notion of science will develop), and the sensitive experience (around which art will develop). Of Latin origin, the word *Sabœr* means both knowledge and taste. We can thus determine that the *homo sapiens* is not only capable of knowing, but also of tasting, of enjoying. In this sense, art has been the mode of knowledge that has less avoided this complexity, the one that assumes that there is no observation without an observer. If science derives its power from the division and separation of variables, art is capable of articulation and of synthesis, integrating subjectivity, culture and nature. It thus sacrifices the applicability and desire for power for the desire for form. Art is the genuine realisation of *Sabœr*.

Castilian retains this integral notion in the diversity of meanings of the verb "to know". When we decide to "know something", we refer to an operative subject that knows something about the world. When we decide to "taste something", we refer to an object that tastes of something, in the sense that the object is the subject of that verb: we taste the apple as it produces certain perceptual effects. And we know about the apple as those perceptive effects become part of knowledge.

This pre and post philosophical dimension of artistic Sabœr calls for some considerations about research. To think, inquire, know "artistically" implies submerging in that integral notion of *Sabœr*. Therefore, we should refer to "art as thought" (Hanneke Grootenboerg), to "thinking through art" (Jones), to the work of art as a rich depository of integral knowledge

that exceeds the applicability and depleted functionality of functionalism. Paul H. Hirst's idea of "knowledge-of-the-object" proposes, in this sense, that it is the object itself that knows, the one who knows us, the one that gives us knowledge. If genes (Watson and Creek) are packages of biological information, then *memes* (Dawkins) are packages of cultural information. From this viewpoint, works of art are not only memories of research, but full *memes*. The objects are the ones that contain and manage their *Sabær*. The work makes knowledge known because it produces it by becoming work in the viewer by putting it to work (feel, think, decide).

This is why the artist is a producer of heritage, leading to the usual consideration that art is cultural heritage. Conservation of heritage begins, therefore, by ensuring the perfect conditions for production. Inquiry is, in itself, the heritage of humanity. No money can replace the desire for knowledge, which is, in itself, free. For this reason, the administration must consider the importance of ensuring the production of heritage. In the network of political-economic interests typical of our societies, public administration and the university will have to undertake the responsibility for preserving these repositories of knowledge; otherwise, what is different in terms of art could be threatened with extinction, devastated by the flows of a highly profitable neo-technical visual culture, but of little anthropological potential.

II.2.1. Subjectual recursiveness.

There is no other field of knowledge more hospitable that limits fewer variables, that seeks to integrate, articulate, harmonise such diverse and heterogeneous elements. Art includes the subjectual factor (and its limits of knowing, its non-knowledge) as an indispensable element to its formula. It has a β-operative character centered around experience and emotions. The experience is assumed as an integral and integrated information unit. It therefore specifically recognises

how, in each cognitive act, the vital and cultural singularity change the perception and categorisation. Art transforms perception and shapes and forms subjectivity. Thus, subjectual recursiveness ensures that each new representation is changed by the awareness acquired in the elaboration process.

II.2.2. Condensing the real: imaginary: symbolic.

Assuming the experience as an integral information unit, artistic elaboration involves the entanglement of real, material, instinctual aspects, imaginary aspects, experiential aspects, and of symbolic and cultural aspects. To meet their purpose, scientific illustrations are adapted to the functional programme of the meaning, trying to minimise any false factor, and any subjectual/expressive aspect. Nevertheless, the latency of paleo-logical substrates underlying the theory-formula persist in those functional images.

In artistic images, that latency is present, exceeding the functional or symbolic (political, religious, mythological) programme of constructing the meaning. This non-linear, non-inertial nature turns the factorial complexity of art into the best example of culture understood as a package of cultural information (meme).

II.2.3. Art differential as cultural occurrence and probability.

Culture is a contract that promises intelligibility and coexistence, if we behave as if the signs we use correspond to what they are supposed to refer. The reality we speak about, think about, and recognise is an imaginary-symbolic reality: it is just as we identify it as reality, the result of a complex

network of meanings and significances. What is left outside that reality, outside the cultural operation of symbolisation, as ex-symbolic or in-symbolic, is what Lacan termed as "real". Religion reintegrates that real into the symbolic world by giving it Meaning, Name, Attributions, and the entire range of symbolic categories related to the unknowable, the unspeakable, the divine. And science will note that this real is only the reflection of our temporary difficulty in finding an adequate symbolic formulation. No doubt that the capacity of production and prediction show that scientific knowledge touches the real, that is it is present in the art. However, art will only evolve around that real figure, allowing something from the ex-symbolic and in-symbolic that has remained outside the "reality" arrangement be present in the works of art. Just as the potter makes holes by building walls, thresholds, brackets that make the hole functional, the artist gives presence to this real something through works. It does not represent, rather gives presence to that ex-symbolic and in-symbolic. Artistic creation involves the three anthropological dimensions (G. Bueno):

> (1) human:human relationships; (2) human:non-human-non personal relationships; (3) human:personal-beings-non-human relationships.

But this is not a simple anthropological exercise that enables the "analysis" of a certain society. Although it is an anthropological condensation that, therefore, includes the very limit of cultural understanding, what differentiates art from other forms of cultural production is what exceeds "archaeological" information, what exceeds the cultural record, the sociological record, the psychological record, the ideological record, the anthropological record. This artistic exceedance and incidence refers to how some art creations that can be done to cover or fulfill cultural "functions" (sumptuary, religious, ideological representations, etc.), can do so "in excess", introducing unexpected and uncalled for real, imaginary and symbolic aspects, so that by subtilising, intensifying, characterising, desymbolising and subjectivising provide something about

that unique entanglement of the real, imaginary and symbolic. Regarding religious, scientific, technical or propagandistic images, the aim is be fully suitable to the function of Meaning, minimising false factors and any subjectual/expressive factor. And yet, even in spite of this effort of functional adequacy, every object or image has, at its base, latent paleo-logical substrates underlying theory-formula, signification, dogma. Art, in its disciplinary sense appears when there is an exceedance or an incidence in and of that substrate. As regards the artistic image, something is freed from the programme, and what emerges is something sculptural or incultural.
The complexity of the Sabœr of art involves:

a). intensification. The artistic experience is essentially an event of intensity. In fact, the most common or everyday event can be enriched by this metamorphic intensification.
b) radical processuality. Artistic creation implies a recursive adaptability that turns any planning into a technical element as useful as indispensible.
c) uncertainty. Uncertainty is a consequence of radical processuality.
d) integral functionality. It exceeds the limitations of functionalism.
e) complexity (real/imaginary/symbolic). Artistic creation does not reject the diversity of variables of the experience, and is, therefore an articulation of cultural aspects, experiential aspects and real aspects, unrelated to any representation.
f) non-discursivity. Not only is there no verbal correspondence for the images and objects, but the presence of images and objects cannot be understood from the logic-discursive, semiotic or epistemic models.
g) axiomatic, paradoxical. For the development of artistic creation, axioms are systematically subject to paradoxical thinking. Art is not an answer, but rather a system of sensitive questions.
i) analogic. The logic of art is analogic, it advances by distinctions and structural relations, not by logic interferences (deduction and induction)
j) dialogic. It occurs only as receptivity and social negotiation.
k) abductive (Ch. Pierce). Hypothetical thinking, logic leap in the void capable of using the missing information, as a kind of “retroinduction”, or of backward thinking (Sherlock Holmes), as a “intuition pump” (Daniel C. Dennet)

l) locutory. While artistic propositions have a performative character, enunciation is transformative. The clarity of the proposition is produced by the proposition itself.
m) *perconocimiento*. Art, what we recognise as such, is what we recognise as a knowable limit. We cannot recognise art without knowing it "through", to be knowing without being known. Performative and non-verifying *Sabœr is perconocimiento*.
n) interdisciplinary. Art is, in itself, an interdisciplinary discipline. It includes technical, philosophical, psychic, representational, linguistic knowledge, but cannot be narrowed down to a simple juxtaposition of partial knowledge. Its most basic tools (drawing, modelling, construction, form, colour), the ones that are key to art are also essential cognitive tools for the development of scientific imagination, even though in the field of science they are quickly sidelined in space-time prior to research. The central nature of those integral cognitive processes in art makes it an interdisciplinary discipline.
ñ) 2nd degree knowledge. Art is not first degree knowledge, in the sense of an immediate link between a subject and the world, without second degree knowledge, through which the tie between the subject and the world materialises through the mediation of cultural knowledge. This is a paracultural, symbolic – and not only imaginary – phenomenon.

II.3. Research models in Fine Arts (possibilities and limitations).

"There is still point of view that is "scientific", in the best sense of the term, which requires, in the face of any phenomenon, that research be carried out with instruments suited to the nature of the study in question" (Umberto Eco)

Discovery learning (J.S. Bruner, 1987), turning research into an educational model is no surprise for art. In the face of the highly formalised scientific knowledge systems, that ensure reliable transfers, artistic education has always

consisted of an artistic inquiry, in all levels of education. The integration of artistic education in university cycles complied with formal requirements that have successfully been implemented in Spain since 1979. In this sense, the abundance, richness and stringency of doctorate works will confirm the relevance of that space where research and art converge.

However, the new conditions of educational convergence at European level and international mobility will pose new challenges for the third cycles of artistic education and for the progress of the research career. Thus, in various countries, the theses (thesis, dissertations), as initial research projects, take many forms in art studies: Master in Fine Arts (MFA: Master in Fine Arts), RAE: Research Assessment Exercise), Doctorate of Creative Arts (DCA: Doctorate of Creative Arts), Doctorates of Fine Arts (S-a/PhD: Doctorate in Fine Arts), Doctorate in Art Studies (DFA: Studio-Art PhD), interdisciplinary Doctorates in creative arts (Ica/ PhD: Interdisciplinary creative-arts PhD), Practice-based Doctorates (P-B/PhD: Practice-Based PhD)…

Often the university administration questions the Departments of Fine Arts because they seem to be little adapted or adaptable to the epistemic requirements of sciences. However, we cannot circumvent this questioning by importing into art the language of technical models, or the controls or ways of refutability in the theorisation of artistic inquiry. It is more convenient to inform the university about the complexity, benefits and challenges arising from the presence of art within the university, to inform about the cognitive possibilities of artistic inquiry to the university itself, and the opportunities as a result of adopting art not only as an object, but also as a form of approximation. Elkins (2005:) recognises four basic models of artistic research:

II.3.1. Research underlying art (history, philosophy, psychology, anthropology, sociology, etc.)

a. History of art. (historiographic models)
b. Philosophy or art theory. (philosophical and phenomenological models)

c. Art critique. (hermeneutic or self-reflexive models)
d. Any field outside the humanities. (scientific models)
e. Technical records. (statistical or experimental models)

II.3.2. Art and research are equivalent. (multidisciplinary and transdisciplinary possibilities)

f. Research and work of art are condensed into a new disciplinary field.
g. Research and work of art understood as wholly separated projects

II.3.3. Art and research are undistinguishable. (art as research, research as art). (Christopher Frayling)

h. Research aims to be as art, and visual practice as research.
i. There are no research components: the artistic practice is the thesis.

II.3.4. "Applied Arts". Art integrated in civil society.

All these models form a particularly problematic repertoire. Each model has a specific form of refutability. However, these problems increase as the model moves further away from the habitual problems in the university, especially when art and research are undifferentiated (2.4.3.). If research intends to be considered as a work of art, if the artistic practice is, in itself, the doctoral thesis, will it then be the valuation protocols of the artistic field and scope that should be integrated in the university structures and boards? Or will the artistic-university community assume the responsibility and privilege of determining whether a certain piece of work is art? Or, as artist Hans Haacke questions, "Will art theory be considered as a work of art?" These difficulties are consistent with the complexity of defining artistic research. It is not a question of hastily finding Solomonic solutions, whether restrictive or normative, but of letting the actual artistic and university context redefine their competences in a new situation that will arise from future work presented by young researchers and artists, and for which – in every case – they can count on our support.

III. Proposals

There are those who, in the name of university rigour, propose a kind of art science, or an art as science, or who guised as a desire to overcome scientific constraints, rhetorically propose a science as art. However, to make art a science is unnecessary, equivocal, absurd and wrong.

The false dichotomy between a technoscientific culture and a humanistic-artistic culture, and the reciprocal complexes of art and science have often led both to wishing to be a mythical correlate of the other, and even to making art a science, and vice-versa. The gradual increase of the systematic complexity of the descriptions and scientific methods has made science overcome the clear and distinct determinism of classical science, and to draw nearer the uncertainties, paradoxes and modes of works of art. When Dawkins suggested a "third culture", he pointed to a collaborative confluence. It is less and less surprising to find artists who are part of multidisciplinary teams involved in scientific research[5], and artists who need scientists and technicians in order to create their works. Be that as it may be, very often the tests carried out by this "third culture" are overwhelmed by scientific and business requirements, and they take in the artist as an eccentric and ancillary outsider to legitimise the alleged multidisciplinarity, but without an actual dialogue among peers, while artists are sometimes content to be accepted in the reputed and powerful scientific club.

However, any collaborative confluence that aspires to make a "third culture" real cannot materialise if the participants are

5_ PARC PAIR (Xerox), Banff Centre for the Arts, Interval Research, ART+COM (Germany), F.A.B.R.I.CATORS, ARTLab, Canon ArtLab, Arts Catalyst, STUDIO for Creative Inquire (Carnegie Mellon University), Interactive Institute, Cultural Institute (European Cultural BAckbone), Soulliac Chater for Art and Industry, Wellcome Trust (UK), etc.

not entirely willing to question their own fields. When the only possibility to address the complexity of the real is through interdisciplinary perspectives, the University is the right place for this and has the responsibility to try that possibility. Thus, given the frenzy in identifying art and science, below are some suggestions for both the University and for the artistic field.

III.1. External suggestions. Proposals to the University.

> "Artists can therefore be most useful to scientists in showing us the prejudices of our categorizations, by creatively expanding the range of nature's forms, and by fracturing boundaries in an overt manner" (Stephen Jay Gould, 1999)
> "a clear conscience of our inevitable inadequacy" (J. Biggs)

The University is a place of cultural and social research: the place where society is given the possibility of investigating its future, of experimenting and questioning about its own existence, in every sense and in the deepest forms. The question about research in Fine Arts is a question about which University we want from art. Our questioning about what kind of University does art want prevents us from being confined to external answers to the question about what art does the University want.

The first request we have for the University is for it to continue to be the place for a cultural moratorium[6], a place for the production and transfer of knowledge, safe from the pace, deadlines, demands and objectives of application and industry, of power and of all external interference. A place free from state, ideological, religious or industrial demands. Free from hierarchical traditions not based on knowledge but on rank, position or seniority. Free to be precisely a place of and for knowledge. Capable of working through external and internal pressures arising from institutional or traditional territoriality. This does not mean that we dream about an independent

6_ Translator note: The word moratorium reflects a specific concept introduced by Erik Eriksson, which describes psycho-temporal suspension through which subjects experiment with diverse conditions necessary for the progression through the different levels of psychosocial development.

university, pure and remote from the present. It means having a University deeply engaged in the moment, but in a critical way, that is, questioning.

Thus, the main proposal to the university does not refer to anything that is not already part of its responsibility, despite all difficulties. For the university, it is an epistemic commitment, but also an opportunity to recognise art as a possibility. In view of the inevitable inadequacy, recognising art as a field of *Sabær* implies acknowledging the experimental nature of the career in Fine Arts, at all levels. This recognition also implies an in-depth analysis of the conditions of art as research, and about the optimal and possible conditions needed for artistic research. Finally, this recognition implies recalling everything that art can bring to research, to any research, and to the very notion of University:

III.1.1. Intensity. The intensification of the typical experience of art is an indispensible psychic condition for research.

III.1.2. Integrity. The valuation of culture provides the capacity to integrate complex intersubjective issues, with no disciplinary restrictions.

III.1.3. Radicalness. Art can carry with it all the modern tradition of iconoclasm, and a century-old deconstructive habit.

III.1.4. Depth. Similarly, this attention offers the possibility of recognising the cultural and imaginary substrates underlying the categories, the formulas and the scientific models.

III.1.5. Inventive. The evaluation of creativity and innovation teach how to base the inquiries on new perspectives.

III.1.6. Emotionality and pleasure. Artists are better suited than commercial companies to embrace criteria such as celebration and amazement, and can offer models on how to include psychic aspects in cognitive operations.

III.1.7. Communicability. The interest in communication favours the capacity to transmit and disseminate science.

III.1.8. Dialogue and planetary cooperativeness. Art is suggested as transcultural culture, allowing the reciprocal fertilisation beyond cultures.

Although the art world and the art market do not want to acknowledge it, the majority of contemporary artists under the age of 40 have connections with the university. Even so, art does not need research, and artistic research does not necessarily tally with artistic practice. Moreover, it is not evident that artistic research will adopt art as a language-object. While art itself is a research model, research should not be confused with its various forms (graphics, statistics, discursive arguments), and art should not be confused with its own forms (iconography, visual culture, applied arts, décor and merchandise).

The proposal for the university is that it continues to make gratitude and gratuitousness prevail, that is, to recognise the gift, and the resistance to transactions, to confirm the cultural moratorium that will allow the University to create without the rush and demands of the industry, or of the interests of politics and of the business and financial worlds. The aim of the idea of gratitude as a proposal is to consider artistic creation without the pressure of any interests, as praise and recognition of the world as a form of thanks.

III.2. Internal suggestions. Proposals to the artists.

Despite the enormous differences between both contexts, research and art both share some inquiry characteristics that require psychic dispositions in some similar aspects. The unbiased intensity, the pleasure of the game, the emotional implication implicit to art is complemented with knowledge and research demands. I believe the best way to prepare young artists for research is to prepare young researchers as artists.

And, conversely, the best way to prepare young artists is to prepare them to be excellent researchers.

Research skills need, more and more, artistic skills, and the opposite also applies. This does not mean in any way that science and art should be indistinguishable, or that art should be assimilated into science in order to achieve the research status. Rather, to recognise that without renouncing to the fields, complexity calls us to places of convergence in which there can be no disciplinary hegemony. Nevertheless, neither art nor research will emerge unscathed from that meeting. For art, it is essential to adopt art as a model, without any "epistemological shame" of those who wish to make art a pseudo-science, and without "epistemological" shamefulness of those who consider art as an irresponsible and sacred activity.

Even under the determinations of the omnipresent, omnipotent and omniscient visual culture, which art seems to have overcome, the artist should recognise the differential experience of art as model and as a space of creation. As artists and researchers, we will have to:

III.2.1. Rethink the contemporary definitions of art, its materials and contexts;

III.2.2. Increase our curiosity about scientific research;

III.2.3. Acquire the ability and knowledge that will enable us to participate in other fields;

III.2.4. Expand the conventional notions of what artistic education and artistic transmission are;

III.2.5. Develop the ability to penetrate the surface of techno-scientific presentation;

III.2.6. Think about the unexplored inquiry options, the non-anticipated implications, the emerging and the latent fields;

III.2.7. Maintain and intensify the artistic experience as the essential centre of its operations.

In short, my suggestion is for a cognizant and scientifically-conscious artist. There are no shortcuts or magic solutions. There can be no full adjustment. Any simplification may jeopardise too important aspects, too important to be left to chains and circuits of demand or transaction. I would therefore like to conclude this talk about gratitude using the same words used by a famous Russian mathematician, P.J. Chevysev, at the start of a lecture on the mathematical basis of dress-making, and which I believe summarises well the inevitable incompleteness and inadequacy to which I have wanted to point out:

> "Let us assume, in simple terms, that the human body is shaped like a sphere"...

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Among his recent solo exhibitions, it is worth mentioning “de oficio” (Gallery Estrany de la Mota. Barcelona, 2017), “Trabajo absoluto” (Gallery Espacio Mínimo, Madrid y MAC, de Coruña 2016), “república” (Reina Sofía Museum, 2014), "Software" (Moisés Pérez Albéniz, Pamplona, 2010); "IMPLEJIDADES" (Centro Cultural de Montehermoso, Vitoria, 2009), "Repercusiones" (Trayecto, Vitoria, 2007), S¡ (Elba Benitez, Madrid, 2004), Plata, Madrid (2003); Interpasividad, Koldo Mitxelena, Donostia-San Sebastián (1999); NAS Donostia-San Sebastián, Gallery DV, (1998); Anesteticas. Algologos, Centro Andaluz de Arte Moderno, Sevilla (1998). And among collective exhibitions are Bida, Valencia (2001); Arte español para fin de siglo, Barcelona (1997); Mais tempo menos historia, Oporto (1996); Cocido y crudo, Madrid (1994); Lux Europae, Edimburgo (1992); El sueño imperativo, Madrid (1991).

His work is present in many public and private spaces, in Museums such as the Guggenheim, the Reina Sofía Museum, ARTIUM, and collections such as Rona Hoffman, or the Dona & Howard Stone collection, Helga de Alvear, among many others. He has curated notable exhibitions such as “Tesoro público. Economías de realidad” (ARTIUM. Vitoria, 2013), "el retorno de lo imaginario, REALISMOS ENTRE XIX y XXI" (Reina Sofia Museum. Madrid, 2010), and “Incógnitas” (Guggenheim Museum Bilbao, 2007).

He is a full professor at the Department of Sculpture at the Faculty of Fine Arts of the University of Vigo and is also a regular guest teacher at several Spanish and foreign universities. He has organized and participated in different seminars, courses and conferences on creativity and artistic production in the new knowledge society, such as "ARTE y SABER" (Arteleku, San Sebastián and UNIA, Sevilla, 2004), "INTERPASIÓN. Sobre Cognición creativa y producción artística en un nuevo espacio social", (Arteleku, Donostia-San Sebastián, 1999); the Congreso La mujer ante el umbral del nuevo milenio (Universidad de Salamanca- The British Council. Salamanca, 1996); the XII Congreso Internacional de Estética (Universidad Autónoma de Madrid, 1992); the II Congreso internacional multidisciplinar "Diálogos de Cocina" (Palacio de Miramar, Donostia-San Sebastián, 2009); Un placer (Arteleku, Donostia-San Sebastián, 1992); Indoméstico (Imatra, 2000); Implejidades (Arteleku, Donostia-San Sebastián, 2009).

He has published, among others, the books "Corduras" (2007), "Ornamento y Ley" (2007), "Laboratorio de papeles", Fundación Museo Jorge Oteiza, Alzuza (Navarra), 2006; "MA(non é)DONNA. Imágenes de creación, procreación y anticoncepción" (1993); "Seis sexos de la diferencia" (1990); and numerous essays in collaboration books, specialized journals, catalogs and newspapers. It is about to go on sale the edition of his “Estética del límite. Marcos y pedestales como dispositivos de discontinuidad”.