Main Article:

Improving Non-observational Experiences: Channelling and Ordering

Gerard de Zeeuw
Sint-Lucas School of Architecture, RC University Leuven, BELGIUM
Faculty of Business and Law, University of Lincoln, UNITED KINGDOM
Address for correspondence: Glebe Farm, Brattleby LN1 2SQ, UNITED KINGDOM
zeeuw@science.uva.nl

Abstract

That the present day society profits from research in many areas is evident. This has stimulated a keen desire to emulate similarly advantageous contributions in other areas. It appears to imply not only a need to know how to (better) support action in general or any action, but also how to support the act of making "better" itself (better businesses, better houses, better emotions, better objectives, etc.). Developing the latter type of knowledge has proved to pose a major challenge, however. Although the challenge has been taken up in areas such as social policy, economics, therapy, management, architecture, design, and others, leading to a number of responses, a complete characterisation seems still to be lacking. Such a characterisation is attempted in this article. Typical characteristics are the inclusion of non-observational experiences and a simultaneous striving for individual and collective high quality.

1. Observational Research

The successes of systematic inquiry or research have led to many efforts to repeat them in other areas--for what they might contribute as well as for the financial support they might bring to such inquiry. Achieving these successes has proved to pose a major challenge, however. This is partly due to a lack of experience in these areas. A more fundamental reason is their dependence on non-observational experiences such as intentions, judgements, and emotions as opposed to the observational experiences that have been the basis of these successes. Areas where it has been attempted to deal with such experiences include social policy, economics, therapy, management, architecture, design, and others.

A characterisation of the form of research that takes non-observational experiences into account appears to be lacking still. This is attempted in this article, based on the use of a template. It is designed to capture what research was like when first attempted and to describe its relation to later attempts and why the latter came into being. The advantage of this approach is that it makes it possible to systematically create further variations--as members of the family of research. In the article the selection of a particular variation is argued--one that includes non-observational experiences and supports the act of making "better" (i.e., making better businesses, better houses, better emotions, better objectives, etc.).

The template that will be used emerged in the seventeenth century. It has continued to structure research up to the present time, that is, the institutionalised research that is supported by Universities and research institutes. The idea on which it is modelled is much older, however. It stems from the pre-Socratic philosophers who were the first to treat the circumference of the earth (Eratosthenes' estimate: about 40,000 km) as an observable (in principle; actual observation would obviously have to wait) that could be linked to other observables such as the angle of shadows in Greece and Egypt and their distance. Links of this kind permeate daily life and have clear advantages--such as simplifying what one talks about.

The type of link that the philosophers preferred was unusual, however. They required that the links would not be susceptible to divine interventions or individual opinions or any other external influences that might restrict their long-term quality. This meant nobody should be able to manipulate them for their own purposes, not even a god--this at a time when the gods were still everywhere. Links of this kind could be transferred and generalised over people, time, and space. The idea behind these requirements subsequently became the template or model for institutionalised research: links should uniquely and timelessly describe how individual observations in the here and now relate to observations that go beyond that here and now.

The advantage of this template is that it helps to make visible how changes in research are reflected in changes in its terms. The issue of god's influence was revived in the seventeenth century (Cusa, 1440/1985; Descartes, 1641/1993; Leibniz, 1714/1867). Observations were considered the primary sense and had to be "clear and distinct" to the individual. The link to other observations was seen as rationally deducible and its

preferred quality as *truth*, independent of any non-observational experience. In recent times this emphasis has changed. The template identifies a researcher's *data*, which are used to increase the quality of their link to possible *theories* as highly *valid*, *reliable*, and *unbiased*. God is no longer mentioned.

These and similar changes do not appear to be solely fashionable. They are designed to help identify unique links should this prove to be difficult. An example is the restriction via the notion of a *scientific object*. It enables the delineation of a domain so that a unique link again becomes possible. Examples include a restriction to *institutions* in sociology (first half of the nineteenth century), *living beings* in biology (second half of that century), and *persons* in psychology (same). Complexity and systems theory developed to accommodate *intentional constructions* (second half of the twentieth century). A more general attempt to identify when unique links can be found is Kant's idea to include some of the limitations of the human mind.

The pressure to modify research to find unique links in case non-observational experiences have to be included still appears to be increasing. Various combinations of scientific objects have been proposed, for example, as inter- or trans-disciplinary fields (Lunca, 1996). An area where the pressure has been felt quite strongly which has been explored extensively is action research (Reason & Rowan, 1981). It aims to help individuals by encouraging their participation in teams or communities as a special type of scientific object (see Section 5). Unfortunately, evidence is lacking that changes in this area have led to unique links, or even that they have been seriously searched for. This seems a missed opportunity.

The idea of modifying research while keeping to the template is further of concern in the creative domains. Here the difficulty of identifying unique links is most severely felt, as the links of interest (in design, in evaluation, in art, etc.) appear to relate mainly to non-observational experiences, such as preferences (e.g., of paintings, buildings, etc.), rather than to observational ones. This has led some authors to reject all research efforts. Obrist, for example, suggests "Bringing art to science gives you a good chance of having neither" (Hoffman, 2010, quote from Hans Ulrich Obrist). Blake claims, "Art is the tree of life. Science is the tree of death" (Anglin, 2010, quote from William Blake, annotation to Laocoön, 1826).

These examples appear to confirm that there is a problem when one expands research to areas where non-observational experiences are included (to achieve relevancy--as in the case of the creative domains) and that this problem is difficult to solve (given the original exclusion of such experiences from the template). Although one would expect the first issue to originate from outside research, and the second from inside, both have been explored intensively inside research. The problem of including non-observational experiences has been studied, for example, as that of purposefulness (Rosenblueth, Wiener, & Bigelow, 1943; Ackoff & Emery, 1972). Arrow (1950) identified formal limits on such inclusion (see Section 5).

In the next section, it is attempted to show in detail the disadvantages of treating non-observational experiences as if they were observational--as happens in institutionalised research. These include formulating recommendations that may damage what they are meant to improve. Section 3 contains examples of approaches that proceed in a way similar to non-observational research, but can be strengthened so the search for a unique link becomes successful. In Section 4 these examples are reconstructed as instances of the template, thereby constituting a suitable form of research. In Section 5 it is concluded that approaches that include non-observational experiences can indeed be considered research. Section 6 refers to what contributions to expect.

2. Beyond Observational Research

In a recent study, the Ethics Resource Center (ERC) (2010) reports that a strong ethical orientation (especially among top management) is linked to low levels of businesses misconduct, high willingness to identify such conduct, and a high commitment to the business. This is of course not unbelievable. It is what any organisation that wishes to adhere to observational research might report, as a (statistical) property of a group of businesses and their employees. But the recommendations that follow are unbelievable: first, to reduce misconduct by inducing a "strong ethical culture" and, second, to "talk the talk, walk the walk" (p. 13). These recommendations do not seem to be supported by the results.

The first recommendation would be effective only if a change in a globally or collectively observed ethical direction (derived from the ethical culture) is uniquely linked to individual changes. This seems unlikely. One may doubt that an increased individual willingness to identify misconduct will lead to a stronger ethical orientation. The converse seems more probable: betraying others may stimulate strong ethical feelings of wrongdoing. The way the second recommendation relates to the result seems even more ambiguous. It implies a manipulation of daily life (where people already walk and talk!) as if it were demonstrated that this leads uniquely to the intended effect. The study does not even mention it.

It might be argued that the research and the recommendations are simply of low quality. Possibly, but the company conducting the research earns its money this way. Hence, it is not expected to antagonise its clients by asking them to manipulate non-observational collective experiences (i.e., the ethical culture) without any confirmation of the (high) quality of their link to individual experiences. The second recommendation is even stranger. It introduces a new element, which is to change collective behaviour through the interaction generated when people "talk the talk and walk the walk." This advice may be based on somebody's or anybody's experience, but surely not on the study reported.

The study and its recommendations thus suggest that searching for a link between observations is not sufficient to support ethical recommendations. Modifications are needed. The first of these, clearly, is that non-observational experiences be included (to identify the direction of change, e.g., an ethical orientation following from the ethical culture). The second is that the notion of quality be adhered to. If a link can be ambiguous

to the point that recommendations need not be based on it, why conduct a study at all? The ubiquity of this kind of study suggests that the ERC preferred to resort to experience-supported fantasy to overcome its lack of an appropriate form of research, rather than acknowledge the low quality of its study.

While this absence may have led the ERC to deceive its clients, this does not mean that the idea of modifying research based on the idea of the research template has not been well received or unsuccessful. An example is the introduction of methods of quantitative measurement in the 1840s (Hacking, 1975), which modified the notion of quality, although not that of observation (the methods opened up new areas of physics). A further example is the use of inferential statistics (Hacking, 1975) to deal with *variety* (Ashby, 1964). One may also consider the increasing ability of researchers to include subjective probabilities and preferences within the study of decision-making (Edwards, 2008).

Attempts to go beyond institutionalised forms of research continue. A relatively large-scale initiative to respond to the challenge of admitting non-observational experiences was finding ways to support deprivileged or underprivileged members of (civilised) society--in areas such as the design of the built environment and adult education (Ten Have, 1973). The initiative was famous for its well-supported recommendations, but was resisted for the same reason too. Eventually it was demoted to a minor in the Dutch Academic Statute of 1991, partly due to budget cuts and partly for drawing too many students away from psychology and pedagogy, which at the time still were limited to observation-based studies.

There have been numerous other attempts to supply the type of approach the ERC seems to lack. Game theory introduced the possibility of players acting on a local level to achieve effects on a global level, as well as adding each other as context (Von Neumann & Morgenstern, 1944/2000). Problem solving was similarly developed to achieve global objectives via local behaviour (Newell & Simon, 1972). As it often proved impossible to avoid multiple links, the aim became to solve the "object" or class of problems (Polya, 1945). Without a class and hence a context to help reduce the number of links, solving a problem becomes a project, and is not research (Easterby-Smith, Thorpe, & Lowe, 2002).

3. Examples of Non-observational Research

The way the Ethics Resource Center (ERC) developed its recommendations may be explained by surmising that it may not have been aware of these developments or that, if it was, it did not realise the relevance of non-observational experiences or the need to pay attention to quality. Its workers may even have been quite human in this, as one often acts best when one can imitate others. It appears useful, therefore, to seek examples that are relevant in two respects: (a) they do what the ERC tried to do, but do so more effectively and (b) it turns out relatively straightforward to show that the examples are members of the family of research, or that little is needed to make them so (Section 4).

Example 1. The way the pharmaceutical industry selects its perfumes may serve as a first example. It invites groups of people with sensitive noses to (collectively) select one of a

number of perfumes based on their individual (local) preferences. If they succeed, they will have created a link between the two levels, but this time one between two non-observational experiences. They may try to increase the quality of this link by modifying it until non-members buy what they advise should be the preferred perfume. When members become able to increase the frequency of such acceptance, the link supports the advice. This means they have reduced external influences like the variety of perfumes that they are invited to consider.

Example 2. The link the "noses" develop consists of the constraints created by their interaction. This is similar to the link that players develop in team sports when they interact within the rules, for example those of football or rowing. They again contribute two elements. First, they are selected and trained to be physically strong. Second, they are expected to link their personal (and local) contributions to a global and collective task, defined in terms of their specific sport. The link's quality is increased as teams improve their coordination so they become able to predict what strategies (akin to advice) will help outplay their opponents, irrespective of external influences, such as the latter's particular prowess.

Example 3. Another example is the development of the democratic voting system. It is set up to identify groups of people (not necessarily well-trained or physically strong) who are willing to perform the collective task of dealing with problems individuals cannot deal with (at various levels: the national army, local flood protection, etc.). The link involved is between what members of the group (government and local council) contribute, and the achievement of the group's task. The quality of the link increases when the group becomes able to recommend solutions that the public will accept. Any increase in this ability may benefit those members who want to be re-elected.

Example 4. The field of marketing provides an example where an increasing interest can be found in imitating the idea of political parties when connecting consumers to products, like spaghetti sauce or a song. The aim is no longer to ascertain individual preferences to derive a single preference. This has proved insufficient for successful mass-production (Gladwell, 2004). The alternative is to invite more than one group of consumers, each of which is to select one sauce (or song), possibly a different one for each group. The quality of the links involved increases the more each group is able to successfully advise what segment of the population wishes what product to be produced.

Example 5. A further example can be drawn from the field of behavioural counselling. Counsellors aim to engage with clients in such a way that both will link their individual experiences to a collective task. This implies restricting their activities to performing that task in a way that is acceptable to both. The quality of the link is high when it is possible to perform the task successfully. Counsellors will attempt to increase that quality by facilitating the interaction with the client. A high quality interaction structures what client and counsellor contribute, and hence leaves them with restricted activities that may help both to deal with existing and future concerns, irrespective of influences that arise afterwards.

Example 6. No cure is known yet to deal with Alzheimer's disease. It has been noted, however, that active participation in collectives adds to the quality of the daily experiences of its sufferers. They feel part of society again, memories return and behaviour becomes more coherent. The effect is not a medical cure, but a reorganisation and restructuring of people's experiences--not only of what they observe, but particularly of what they wish to do. This implies a link between levels. Although creating this link often proves possible only for a short time, caretakers seem to become able to learn to extend the period during which the link can be maintained, irrespective of external influences (Kooij, 2003).

Example 7. Education provides an especially relevant example, partly due to its dual role. On the one hand, among its explicit aims is that students learn the results of observational research (i.e., "having an education" [Reid, 1971]). On the other hand, people are aware of the (non-observational) advantages of "becoming educated." It implies creating a link between getting involved in the individual "exciting . . . process of creation" and the global "satisfaction of completed attainment" (p. 13). Its quality is described as "needing no other justification" (p. 14). One becomes educated when this quality increases or can be optimised, uninfluenced by what one is educated in.

Example 8. The nature of moral and non-moral activities has been discussed endlessly--frequently only among professionals. When the latter link their personal judgements and experiences to collective judgements, the link's quality may rise in the sense that (a) judgements are increasingly accepted by non-members as guides to their own activities and (b) the ability to predict such acceptance continues to grow. High quality links signal the ability to act ethically as well as to convince others of what this involves. Such links appear to develop only slowly. Attempts to cut this process short via observational studies frequently emulate the difficulties of the ERC study (Ethics Resource Centre, 2010).

Example 9. Non-observational experiences are part of social practices (Stengers, 2010). These include organised religion. The latter often refers to a paradoxical re-entry. Descartes (1641/1993, p. 1) notes, for example: "we must believe in God's existence because it is taught in the Holy Scriptures and . . . we must believe the Holy Scriptures because they have come from God" and "this reasoning cannot be proposed to unbelievers because they would judge it to be circular" (p. 1). Practices where the link has high quality appear to be characterised by the same circularity. It defines the form of the interaction as a link between two levels where the one maintains the other and does not replace it.

Example 10. Architecture provides yet another example of an area where existing practices seem to provide something akin to what the ERC seeks, which is to support improvements in various tasks. An example is geopoetics, as conceptualised by White (2006). Its aim is to help advise how to create spaces the structure of which helps clients link individual experiences to collective ones of comfort and beauty and to increase the quality of the link. A high quality link would imply the improvement of individual experiences, starting from the latter, but in terms of those global experiences (of comfort

and beauty). This approach appears not only part of geopoetics, but also of many architectural studies.

4. A Family of Research

The examples show a clear pattern in the way people act supported by non-observational experiences. Individual experiences are linked by having the individuals interact to perform a collective task. The tasks may be quite diverse, as the examples show. Striving for high quality requires starting to perform the task with less unnecessary effort, and in so doing increasingly efficiently and effectively. It also means reducing the effect of external disturbances so the collective becomes able to survive in its environment, for example by preventing powerful individuals from dictating what the collective should do or reducing non-participants' resistance to what the collective proposes.

This pattern is in part similar to how people cope via research. There is a further, substantial difference, however. Reports of observational experiences usually refer to what is observed rather than to the observer. This means that it is possible to connect a report like *I see X* to some object X, which eventually all observers may recognise as the scientific object. This makes it clear what reports are to be compared ("where do we differ if we see the same X?"). In contrast, reports of non-observational experiences are linked to the experiencing person. This means that it may be impossible to identify the Y in another person's report like *I feel Y* (even when the stimulus to the report is a bottle of perfume that is visible to all).

This difference also implies that it is impossible to reduce the number of links to find a unique link. This difficulty is referred to as Arrow's (1950) impossibility theorem. It is claimed that no collective preference can be found by comparing individual preferences-- under a wide set of conditions. There are four (see Okasha, 2011). The domain of preferences has to be unrestricted (the U condition). There should be no dictator (the N condition). There should be no individual preference that may serve as the collective preference because it is already shared a priori (the P condition). Finally, preference orderings should not depend on anything but the orderings themselves (the I condition).

Arrow's theorem implies that there is a solution only if some or all of these conditions are not met--for example when there is a dictator in the form of an authority (as in the art world). The notion of a collective as an interactive link between individual and collective tasks identifies another, more general solution. It implies that the (non-observational) preferences implicit in participants' activities are combined into the preference expressed as the collective task. The link between the two will be of high quality if the collective is able to develop so it may defend itself against disturbances and hence to transfer over time and space, as well as over people (e.g., voting is a procedure that anyone may participate in).

Achieving a high quality link, that is, making the interaction in a collective efficient, effective, and viable, and hence unique, proceeds via a two-step process. First, people restrict what each participant is to contribute to achieve the collective task. This is an

ordering process that is referred to as "channelling." It is like "bracketing" (Husserl, 1939/1973) and helps to make individual contributions comparable (two contributions may be the same or different to the extent that they help perform the collective task). Second, participants identify as a collective task choosing what non-participants at least do not resist or reject--and maybe even appreciate when it helps them to experience a "better" smell, taste, ethics, or sales.

A demonstrable conclusion from the above is that there is not only a clear difference between the pattern the examples demonstrate, but also that this difference can be transformed into a similarity. It requires the notion of channelling as a way of making non-observational experiences comparable (and solving the impossibility theorem). Once the transformation is complete it can be concluded that the examples are indeed like research and hence part of the family of forms of research that satisfy the template (which includes institutionalised research; see Section 1). What remains to be ensured is that participants start to strive to achieve high quality via the two-step procedure identified above--so their results may stand on their own feet.

Although it may seem unusual to refer to voting systems and football as approaches that only need to focus on increasing quality to become forms of research, as in the above, the step towards including the notion of a collective is not exceptional in the history of science. It can be compared to the case of statistics, which is by now well established as a research procedure (rather than only as a topic of research). It links individual observations (in the sample) to a global set of observations (a population). While the link sought remains unique, there is some freedom (that of selection) as to which personal experiences are linked to the population.

The introduction of a collective when dealing with non-observational experiences similarly allows some level of freedom. If members do not contribute as expected, other members will wish to compensate for this as part of the process of striving for high quality. Members may thus change how they interact with others, how they engage and be engaged and how they witness others participate (Nevejan, 2009). This does not mean full freedom as this might lead to a loss of coherence. One may expect collectives to be "watched" or "policed," therefore, as to whether they continue to search for quality--via people who act like referees, judges, umpires, professional bodies, and so forth.

Collectives will be part of daily life, as described in the examples. They consist of people without or with special qualities like "noses," "palates" or "expertise." They perform their tasks in the context of others performing other tasks. This means that as research collectives they are situated in time and place (i.e. in "practice"). They may use different forms of interaction to achieve the same task, depending on who and what is available. Members will try to ensure that they are able to perform their task and hence will create resources. These may be referred to as knowledge (due to their similarity with observational knowledge), but more frequently as "competence," for example "emotional competence."

A large class of examples of the search for competence consists of playing games. They tend to be absorbing and to be performed without reference to motives other than their performance (Huizinga, 1955). They help develop "better" feelings such as loyalty, trust, and commitment (Mangan, 1986). They may be introduced to deal even with emotions like grieving so people "improve" them as future resources to action. An example would be games becoming rituals that help to deal with social events like losing someone (James & Friedman, 2009). Although games are usually not regarded as a form of research, playing them to achieve high quality clearly provides substantial support.

These and previous examples did not start out with the intention of being research, of course. They developed in order to deal with a problem that previous instances of the template (and the family of research) could not solve. They acquired two important properties: (a) members of the collectives interact to perform socially relevant tasks and (b) members pay considerable attention to achieving high quality (although not necessarily successful), for good reasons. One cannot compete in football if there is no training; one cannot share a belief without a high quality text. The two properties thus identify how collectives may acquire some form of knowledge, and thereby demonstrate an effective way of becoming instances of institutionalised research.

5. Non-observational Research

The aim of the present article is to identify and present an approach that can be set up to adhere to the tradition of institutionalised research, as well as to respond to challenges such as those of design, social policy, governance, and so forth. This was shown to require modifications of the characteristics of this tradition. One type of modification appears to allow improving emotions and other non-observational experiences--in the case of collectives as well as individuals. Individuals can be supported to grieve "better," smell "better," and help patients "better" experience illnesses. Collectives may become "better" governments, provide "better" food, and play "better" games.

It would seem that modifications in terms of the template have occurred a number of times. Historically the first step is some practical initiative such as improving calendars and noting the time of change of the seasons. Eventually these activities are seen to show a pattern. In the second step the pattern is recognised as an instance of some form of research. In later developments new activities develop that modify the pattern. This means they are built on the same principles as the research but are also (somewhat) different. The sequence of activities may then be interpreted as the emergence of a "family of research," later members being related to previous ones but also adapted to new challenges (Wittgenstein, 1953/2001).

If one considers the sequence of members of this family, it appears to show a gradual convergence towards the idea of high quality interactive collectives as presented in this article. Each member increasingly includes non-observational experiences. Examples can be found in Kübler-Ross (1970), Checkland (1981), Pagels (1984), Habermas (1984), Frazer (1995), and Gass (2002). Sometimes the authors pay insufficient attention to the idea of quality. Those explicit about quality are Hardin (1972), Reynolds (1987), Beni

and Wang (1989), Warfield (1990), Resnick (1997), Day (2000), Mendy (2009), Shoham and Leyton-Brown (2009), Walhout, Schuurman, Moelaert El-Hadidy, and Krom (2009), and Fischer (2009).

Studies that explore the inclusion of non-observational experiences into institutionalised research as part of its internal development can be found in Goodman (1951), Vygotski (1962), Von Bertalanffy (1973), Simon (1981), Papert (1991), Groen, Kersten, and De Zeeuw (1980), Varela and Shear (1999), Kauffman (2000), De Zeeuw (2004), Latour (2005), and Fallman (2008). Newell and Simon (1972), Edwards (2008), Howard (1971), Von Neumann and Morgenstern (1944/2000) and Axelrod and Cohen (2000) made activities that include non-observational experiences such as *decision making* and *problem solving* part of research. The work by Rosen (1991) is especially relevant in these developments.

6. Concluding Comments

The topic of the article was chosen when wondering what advice to give to those who aim to improve their intentions, emotions, and other experiences, but do not find an appropriate research approach. One might suggest simply treating non-observational experiences as observational ones, but this tends to prove disastrous (Section 2). A more adequate approach was presented, based largely on developments within the community of researchers. It includes the design of collectives, the interaction within which contextualises members' contributions. Such contextualisation enables the improvement of the links between levels of non-observational experience to the point where these become unique and hence usable.

This result merits some comments. First, it does not yet seem to be complete although its development started some 60 years ago--when it appeared in the work of operations researchers, policy makers, economists, and others (Section 5). While such incompleteness seems characteristic of all research, it also suggests that the approach is most conveniently clarified via examples that demonstrate where effort is still needed to approximate the complete form (Sections 3 and 4). At present it extends research beyond what has been institutionalised and includes, for example, emotions as well as what Descartes considered the secondary senses (like smell and taste).

Second, the demand for this extension is still growing, as evidenced by increasingly frequent references to concepts like participation, coproduction, cooperation, collaboration, communication, coordination, and the like. Procedures that use these concepts engage and re-engage individuals via contributions to collective tasks, the effects of which are beneficial to others. Examples have been presented in Section 3, where it was emphasised that something is missing still. A striving for higher quality is required for them to constitute research. Given this interpretation the examples have implications beyond the examples. They have been recognised as forms of systematic research, even though they were not developed as such.

Third, there is a well-established literature on the distinction between observational experiences that can be made objective (in the sense of revealing a unique type of link) and non-observational experiences that usually cannot--such as intentions and values. Some philosophical schemes simply reject the latter as not part of research (positivism) and some expend effort on including them (Stevenson, 1944). It was shown that these experiences could be channelled as a way to make them comparable to observations. Reports of "channelled experiences" can be improved to achieve the same level of precision as observations and with similar benefits (i.e., when their collectives are able to survive in their environment).

Fourth, the approach shows another relevant characteristic as a consequence of being part of the family of research. The acquisition of non-observational resources can be compared to the acquisition of non-observational knowledge. It consists of the channelling or qualifying of contributions to a task in support of an increase in competence (in judging, emoting, planning, etc.). The role of this form of knowledge appears sufficiently substantial to make people feel they miss "something" when they have access only to observational knowledge. It helps to create the rules of the games that orchestrate people's activities in daily life, allowing them to better love and respect others as well as to survive and be merry.

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