The Sense of Measure and Graphic Communication. Three Pranks, Two Studies and a Consideration

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"*A buon intenditor poche parole*"; "A word to the wise (is sufficient)"; "*À bon entendeur, demi-mot (suffit)*"; "*mezza parola*": in practically every language (and in many dialects) there is a saying of analogous meaning. The meaning is clear: to communicate effectively with those who are experts, with those who are well versed in something and have a precise competence, very little is needed. No need to get lost in long speeches or detailed descriptions. 'A half word' is enough for the wise.

The theme of measurement and communication allows for reflection on this topic. The measure does not have –as lucidly pointed out in the call of this issue– an exclusive quantitative prerogative. Its qualitative connotation appears in many cases infinitely more relevant, especially when it comes to measuring –forgive the quarrel– the amount of information necessary to communicate clearly, without sacrificing complexity.

During a *Seminario di Primavera* in 1985, Franca Helg, with perfect synthesis, noted that "size is the foundation of form" [Helg 1988, p. 159], linking each graphic expression firmly and intrinsically to the measurement. There is no way to define a shape in the abstract. Its description covers the scope of the measurement and it is always declined in the field of measurability. Despite this, the number of measures

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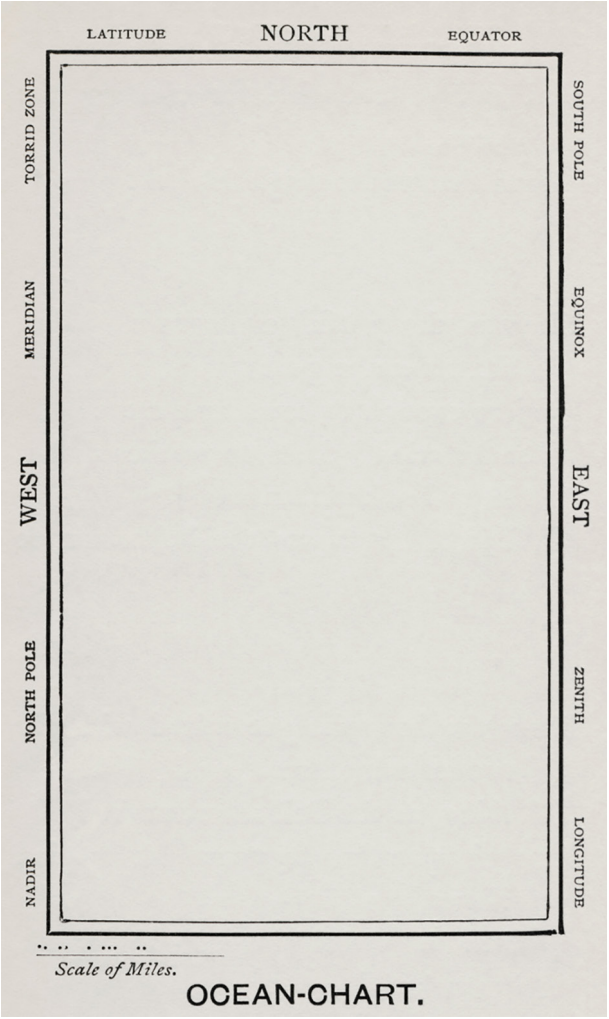


Fig. 1. H. Holiday, Ocean Chart [Carroll 1876, pl. 4].

necessary to define it –which could be very high– can only be strictly limited. Describing through drawing is a complex matter. Being able to ensure that the graphic representation effectively communicates the shape is the result of the convergence of procedures, conventions, capabilities, even inspiration. Risking to relegate the description of the shape to the slavish rendering of its measures and to believe that the greater their number, the better the description we get, is one of the dangers that run in these years, in which it is easy to be blinded by the charm of the technical dimension of the graphic representation. Submerging a shape in the definition of its measures is likely to make us lose its meaning and make its communication ineffective.
In this note I would like to reflect precisely on this topic, that is, on the need to communicate precisely, without getting lost in the 'sea' of dimensions, details, to avoid that the narrative is fragmented and that the shape –be it graphic, spatial or other type– end up 'fading' and overshadowing. Recently, there is an increasing tendency to focus on mensural precision –which is quite different from the accuracy [Calvino 1993]– and we should probably ask ourselves why the spread of a modality that sometimes proves to be redundant and intrusive. In other words, the need to resort to the 'sense of measure' –however vague this expression may be– in the context of graphic communication will be considered.
The breadth of the theme requires reductive choices and the arguments used will be mainly analogical. In the following pages we will take into consideration some emblematic cases, two examples of conscious and clear management of the sense of measure and three blatant transgressions in this field. If the former concern the well-balanced practice of two expert architectural scholars, the others are examples drawn from the substantially graphic repertoire of writers, designers and humourists who, precisely because of their natural attendance with oxymoronic thinking, are able to show clearly how much the lack of sense of measure determines the collapse, the disaster in the communication.

Three pranks

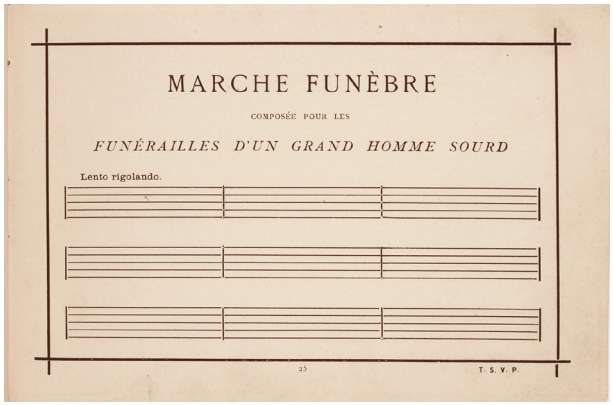
Regarding the narrative scheme of Conan Doyle's stories that have the most acute Sherlock Holmes and the distracted doctor John Watson as their protagonists, Carlo Ginzburg noted how nothing allows us to understand

well how much seeing someone who does not understand [Ginzburg 1986]. Allowing the reader to witness an explanation, studded with doubts and specific questions, manages to make the logical path that leads to the discovery of the truth clear. In a similar way it can be useful –while remaining far from the intention to pursue any rigid truth– to consider three funny inventions, three cases described by writers, illustrators, designers, united by their ease in the territories of humour and sagacity. Our three authors, who obviously understand very well, pretend not to understand how necessary an adequate relationship is necessary between the act of measuring and its object, between the description and the thing described, precisely through measurement, generating three paradoxical situations.

The ocean of Holiday
In 1874, at 35 years of age, the Pre-Raphaelite painter Henry Holiday, illustrated The Hunting of the Snark, a satirical poem of surreal taste written by Lewis Carroll [Carroll 1876]. Of the ten beautiful woodcuts depicting monstrous figures and caricatured characters, the fourth, an incredible map of the Ocean, is particularly surprising (fig. 1). Within a box dotted with scale and orientation indications that are inconsistent and contradictory, there is a completely empty field. The illustration, which simulates a geographical map, is composed of a free, perfectly white field. Although the frame evokes indications of measurement and location, the image is completely devoid of object. The representation of places is converted into the representation of non-place. The graphic 'liturgy' of measurement and orientation which in geographic maps generally occupies a prominent place –metric scales, compass roses and so on– expertly suggested in the frame, coexists with the lack of the measured object. A chess game without a chessboard seems to be taking place. It reaches the 'zero degree' of that relationship between the thing and its description which makes every representation theory indispensable and unavoidable. I have already used this illustration as a stimulus for reflection on other [Dotto 2011] topics –as proof of how emblematic and stimulating a 'zero degree' representation can be in different areas– and I think the amazement, the vertigo that this image is capable of generating lunges above all in its ability to make reference points and scale lose, not to allow deciphering –even accepting that it is an image of an ocean– any indication of the vastness or limitation of the field represented and, together, not to allow the observer to recognize his own measure with respect to what the author wants (or pretends to) represent.

The silence of Allais
The last part of the *Album primo-avrilesque by the comic author Alphonse Allais of 1897, reported by the Marche Funèbre Composée per le Funérailles d'un grand homme sourd*, two pages of pentagrams [Allais 1897, pp. 25, 26] on which no note stands out (fig. 2). The image is suggestive and fun and feeds on the absurd causal relationship that links the need for funeral music not so much to the funeral pump set up for the guests as to the auditory sensitivity of the deceased. Although the musical key is also missing from the score, its function would be to provide a reference for reading the notes –non-existent, in fact– the song is divided into 24 bars (which are also called 'measures') and also reads an unusual indication of time, "*lento rigolando*". Allais makes us imagine the solemnity of a sumptuous funeral –let's not forget that a grand homme is celebrated– in the silence of the execution, marked and measured by a precise duration with a slow tempo. Incidentally, after 55 years, in a completely different world, John Cage conceives a similar piece, *4'33"* written in 1952, and proposes its performance in concert halls, showing how the measure of silence hypothesized by

Fig. 2. A. Allais, Marche Funèbre Composée pour les Funérailles d'un grand homme sourd [Allais 1897, p. 25].



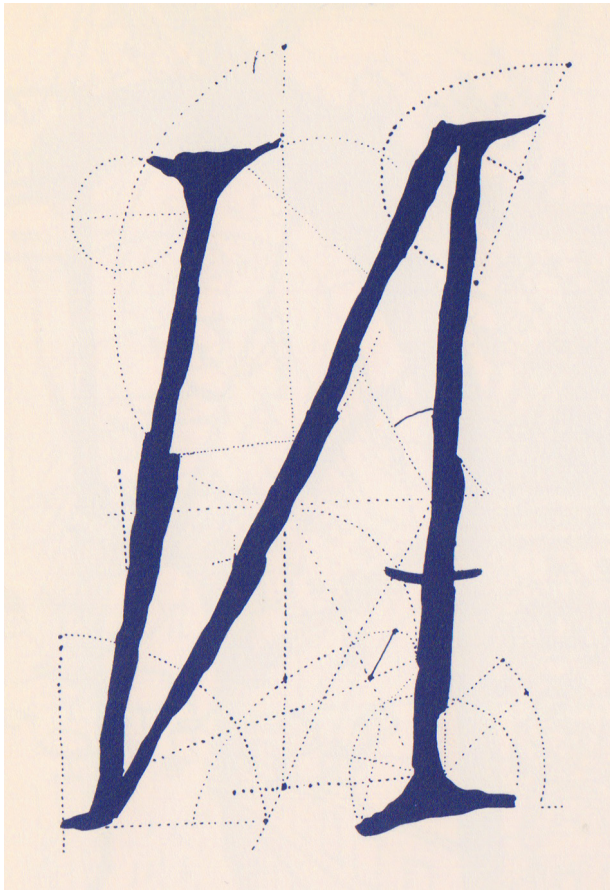


Fig. 3. S. Steinberg, untitled [Steinberg 1949].

Allais and described as a refined *boutade* will be able to support other reflections and above all how that silence, precisely because measured, detailed and shared, can be configured in a different way each time. From a musical point of view the invention of Allais and the piece by Cage –however, we have to distinguish– including the measure of time, exclusively connote a temporal context that would otherwise have been dissolved in the oblivion of common days and which instead paradoxically listened a trace of unrepeatable density. These pages of Allais are the precise image of the measure itself, the outcome of the act of measuring itself, the tangible sign of the measure regardless of the measured object which, like any silence, cannot have an occasional and at the same time casual connotation, undefinable; this is precisely what will not be able to characterize any programmed sequence of sounds or any structured musical form.

Steinberg's letter

Among the hundreds of drawings, photographs, photomontages that the Romanian designer Saul Steinberg composes in his volume *The Passport* of 1949 [Steinberg 1949], towards the middle –the pages are without numbering– a strange shape appears, a letter 'N' traced backwards with unsteady hand, incoherent sticks, deformed graces (fig. 3). A little more than a gouge, in a proper sense. The shape, however, is literally surrounded by dotted dials, thin segments, hatching, which describe a deep attention to the metric and angular measurements of that letter. Surrounded by so much attention, the gouging appears even more unworthy, deformed. The oxymoron formed by the collapse between the obsessive attention to the measurements and a shaky sign supports the comic effect and opens the door to a trail of reflections –as it always happens in Steinberg. Is it possible that the letter, if surrounded by so much interest, is less ugly than it appears to us? Is it possible that the punctual interest is deserved and that any apparent deviation is desired? Could it be that it was traced precisely on the basis of that dense conglomeration of measures? Of course not. We are definitely seeing an immense attention to sizes, an oversized interest. Steinberg's drawing shows a misplaced pedantry, a meaningless effort, an empty obstinacy aimed at describing characteristics without any quality. An effort driven by a prejudicial interest, perhaps, whose effectiveness is null and whose end is untraceable.

Two studies

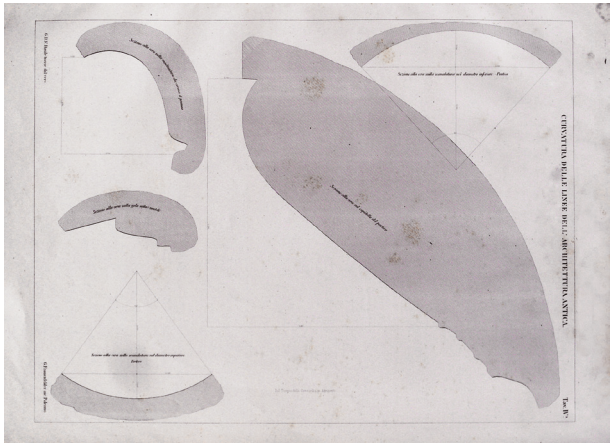
In reality, probably nothing allows us to understand as well as looking at two authentic masters at work. Over the years I have repeatedly come across the work of two characters of extraordinary calibre. The one is a great nineteenth-century architect from Palermo, Giovanni Battista Filippo Basile, also known as a scholar of ancient Greek architecture. The other is a Sicilian intellectual, passionate about medieval architecture, Domenico Benedetto Gravina, who completed an extraordinary work on the Cathedral of Monreale. They are two authentic experts in their field, two scholars who have left an indelible mark on the historiography of Sicilian architecture. We will consider only two episodes of their work, two details unsuitable to describe the importance of their commitment but which are useful within our reflection on the appropriate use of measurement in graphic communication.

The continuous line in Basile's surveys

In 1884 Giovanni Battista Filippo Basile published *Curvatura delle linee dell'architettura antica con un metodo per lo studio dei monumenti*. Epoca dorico-sicula [Basile 1884; Dotto 2012], a work in which he studied three monuments in the Agrigento area focusing his work –in the wake of the pioneering works of Joseph Hoffer, John Pennethorne and Francis Cranmer Penrose of a few decades earlier [1]– on the study of the curvature of the lines in Greek architecture. Basile illustrates in detail some ingenious methods for detecting the sections of these curves he himself experimented. He proposes, among other things, to create wax casts on the surfaces, to cut the casts according to a plane that –for the capitals, for example– passes through the axis of the stems of the columns and to trace these perfectly coincident sections on paper, after a patient work, with the shape of the volume generators. The attention paid to the survey of the measures is tangible and Basile is interested in taking into consideration the shapes "in their actual size, without any alteration, that is, the exactly true, autographed lines traced by the Greek artist during the construction time" [Basile 1884, p. 3]. Many details are drawn '*al vero*' in the large format plates that accompany the short volume of text and the floor plans of the temples are quoted in millimetres. The object of the study is the monument in its real form, protected from idealizations that can lead us to build abstract models, seductive as fallacious. On this Basile it is extremely clear: his purpose is to measure elements which really exists, without forcing in any way the survey in order to obtain perhaps more captivating drawings that do not represent the real monument.

In the period in which Basile writes, the survey technique benefits from the diffusion of many innovative tools. Traditional instruments are revised in the light of new technological acquisitions that allow unprecedented precision and are made on the basis of those for the celestial survey. Basile however –while exhibiting a *nonchalant* competence also on new instruments– continues to use, substantially, ruler and level, exploiting them with acumen and patience. The material with which most Sicilian Doric monuments are built, a beautiful golden and porous limestone, does not allow to enjoy smooth surfaces, especially thousands of years after the building phase. Basile is consequently found to detect surfaces full of imperfections, gaps, abrasions, washed-out and corrupt parts. Attention to the millimetre, in this condition, can only appear pleonastic. The interest in the monument and its authenticity, in its physicality, in the graphic restitution of the survey, in the construction of the plates, in the communication of the results must leave room for a more complex vision, far from rigid and prejudicial, towards the forms detected. In fact, his drawings do not show stunted shapes, interrupted by the natural fractures of the stone surface but

Fig. 4. G. B. F. Basile, "wax" survey of details of the Temple of Concordia in Agrigento [Basile 1884, pl. VII].



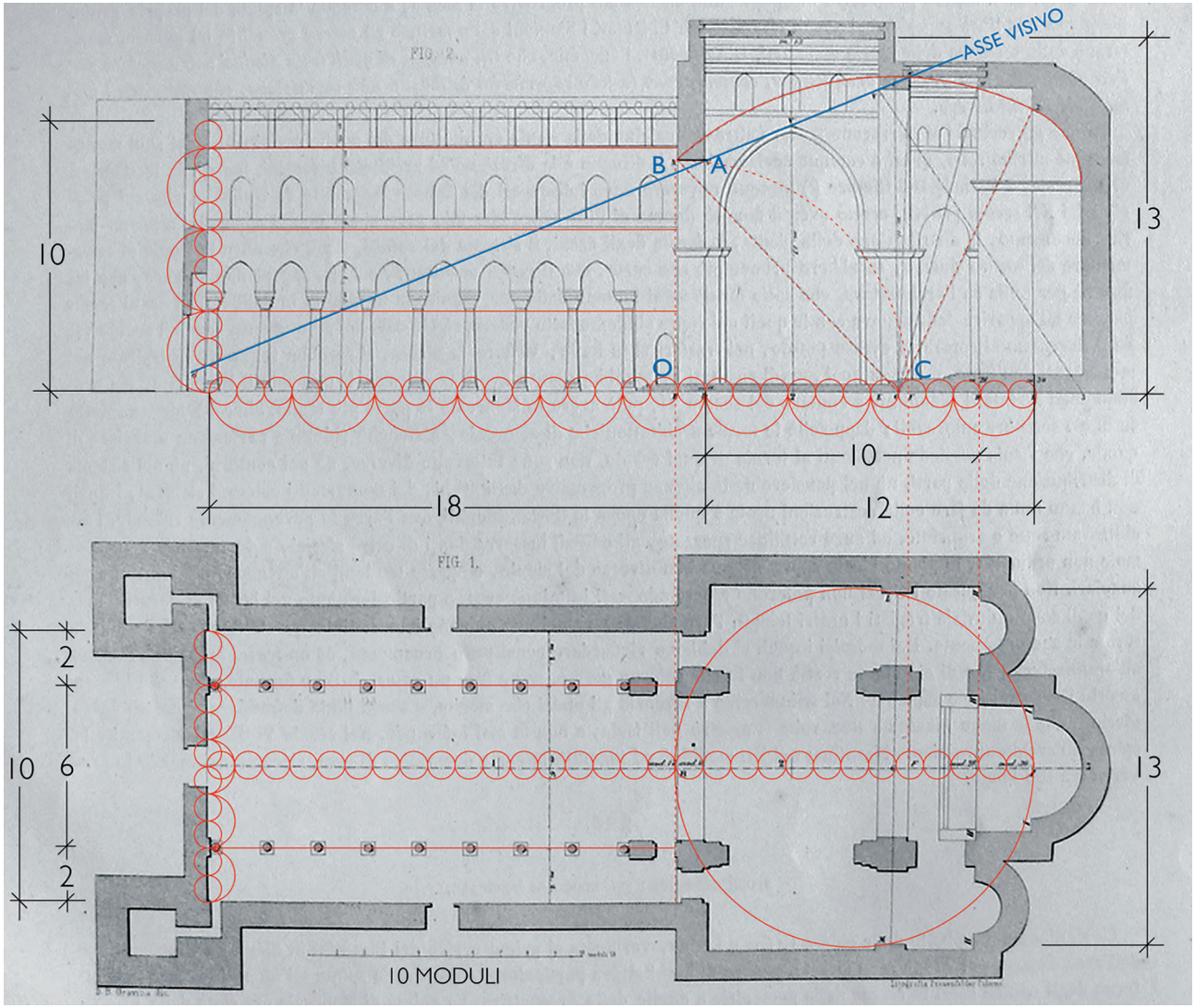
rather continuous, fluid and elegant lines (fig. 4). The ambition to propose the results of a survey that is as impersonal and mechanical as possible is broken by the need to provide a coherent reconstruction of the forms, so much so that if it is not possible to "find the entasis, the capital in a well-preserved column, the grooves and more" [Basile 1884, p. 42] it is necessary to compose elements of different parts to obtain an accomplished design. In the same way in graphic restitution of the intercolumns it may happen that it is necessary to put aside the precision of the survey and "correct some slight defect in execution, which can always happen in human works" [Basile 1884, p. 42]. Basile faces similar situations in the redrawing of the entasis –"by adapting the rule near the point we see that only a millimetre is missing so that the inflection will vanish" [Basile 1884, p. 34]– correcting the survey by the means of drawing.
Are Basile's surveys false or incorrect? Absolutely not. Basile's approach shows a disciplinary maturity that allows him to finalize his careful –even pedantic– approach to taking measures. In communicating the results of his studies he appeals to all his culture, his acumen and his experience and proposes readable and pleasant, intense and mature plates, in which, even more than his respect for precision, a deep sense of measure emerges in knowing how to balance study and story, clarity and precision, intention and outcome.

The prudent analysis of Gravina
When between 1859 and 1870 in Palermo the work of Domenico Benedetto Gravina Il Duomo di Monreale, *Illustrato e riportato in tavole cromolitografiche* was published [Gravina 1859-1870; Dotto 2009], the interest in Sicilian medieval architecture and in particular in those belonging to the so-called Arab-Norman vein has already produced dozens of significant studies and surveys, so as to constitute an episode of great interest in Sicilian historiography. Gravina dedicates a monumental work to the study of the Cathedral of Monreale, directing one of the most amazing masterpieces in the history of Italian publishing. To achieve it, he recruits and trains dozens of young and talented designers, gets a seat of the Neapolitan chromolithography Richter & Co. opened in Palermo, promotes the creation of a complete and original survey. The large-format work includes 90 color plates in which the most diverse and modern methods of graphic communication are explored. Of this varied and generous work that deserves much more consideration, we will consider only one aspect, rather reduced. On page 53 of the text volume there is a black lithograph of the plan and the longitudinal section of the Cathedral (shown here with the overlap of some geometric constructions and metric scans) that Gravina uses to illustrate a passage of great importance (fig. 5). As a profound connoisseur of Sicilian architecture and metrology, Gravina also dedicates himself to the modular reading of the plan and section of the Duomo and measures its proportions with intelligence by putting forward some effective and convincing hypotheses on the geometric layout, carrying out what we would now call a graphical-geometric analysis. He proposes a reading for the layout of the section which provides for the construction of an ascending visual axis that crosses the building in depth and which precisely determines the height of the arch of the presbytery. What is important remarking is that although Gravina possesses a very precise survey –for those times, obviously– and therefore has the dimensions of each part and element, he manages to resist the temptation to deepen and decline the analysis up to consider minor details. Gravina writes: "Various other less interesting investigations, and more subtle observations, we believed to neglect them, both because of less interest, and not to be accused of minuteness, or even idealism, in things that could be reputed due to chance, and never to the depth of science. What was said is enough to give the reason for the architectural beauty of a monument, in which a softness of style reigns, and a harmonious severity as a whole" [Gravina 1859-1870, p. 53]. Gravina succeeds where sometimes many of us fail: he develops an in-depth analysis and shares only the most convincing part of it, he stops after reflecting on the general system, he avoids "minuteness" and "idealism". In essence, he elegantly identifies the limit beyond which the hypotheses become confused, the clarity is less and the anxiety of completeness –a true enemy of good graphic analysis– takes over and risks tarnishing the results. In other words, he shows his ability to consciously use his sense of measure.

A reflection

What is the difference between the three pranks and the two studies? What makes the two studies exemplary cases and the three pranks paradoxical situations?

Fig. 5. D. B. Gravina, graphic analysis of the Cathedral of Monreale, with overlapping (by the author) of modular schemes and measures [original drawing in Gravina 1859-1870, p. 53].



Our three humourists ostentatiously flaunt an unconscious and obtuse attitude. Holiday shows that he cannot represent the object of his drawing and ends up not even knowing the orientation of his map, suspending us in a scalar limbo, leaving us without references and making us float in absolute indeterminacy. Allais pretends not to have understood the relationship between measure (time) and the measured object (music) and shows us how measurement, the act of measuring, can even be independent of its object, how measurement can constitute a sort of theme in itself, autonomous, not dependent on the quality of what is measured (which does not exist in the present case). Steinberg, on the other hand, pretends not to understand that the obstinacy in studying the dimensions of the doodle is completely superfluous and that the distance between the act of measuring and its object, between the gouging and the fury in measuring it, shows –in this case excessively, while in Allais the opposite happened– that the relationship between form and measure does not naturally arise in a harmonious way but rather that it must be meditated and evaluated. This is only possible by appealing to your sense of measure.
The two scholars, on the other hand, show great competence in their fields and manage to impeccably dose the relationship between measure and measured object, bringing communication on a level of effectiveness and absolute common sense. The use of dimensions –the basis of the representation of the curves of the temples or of the analytical reflections on the shape of the Duomo– is absolutely adequate, exact, and aimed intelligently.
Similar conclusions could also be reached by exploring different areas. Until a few decades ago, cooking recipes were indistinctly dotted with the acronym Q. s., '*Quantum sufficit*', usually referred to salt, spices, however to ingredients whose quantitative contribution is very delicate and can transform delicacy into disaster. It was sufficient to recall the chef's skill and sense of measure without going into precise quantitative descriptions (8 grams of salt, a shaved coffee spoon). They made direct appeal to his experience, his knowledge and his manual skills. The recipes that an ancestor of mine, a baker, pinned on his notebooks were resolved in a few lines: a list of ingredients, the temperature of the oven and, sometimes, the cooking time. The recipes written for the offsprings, generally profane, were extensive descriptions of the gestures to be made to prepare the doughs, of their sequence, of the intermediate stages and even reported the risks that are run if you work differently than recommended. Years ago I heard a shipwright, a boat builder, claim that the projects consisting of drawings accompanied by precise measurements are made for the ignorant and that he was able to make a boat, exactly as desired by the client, only using wisely a small instrument –the 'mezzo garbo'– which he used to shape the planking and therefore to give shape to the hull. The communication between the client and the manufacturer took place verbally, at most indicating two or three measures of the boat, and this was enough. Something similar happened in the construction of architecture when the language of architectural orders was used. The architects and the stonemasons often referred to the knowledge of a common lexicon, perhaps taken from an architecture manual or a treatise, often Vignola's or Palladio's one. There was no need to communicate the shape of the mouldings, to draw the Ionic volutes, the Corinthian acanthus leaves. Each stonemason knew perfectly how to operate from essential indications. A good connoisseur, few measures.

Conclusions

In a paragraph of Il sipario dedicated to the nineteenth-century Austrian writer Adalbert Stifter, Milan Kundera frames an essential aspect of modernity that has to do with the "existential meaning of bureaucracy" [Kundera 2005, pp. 143-145]. The bureaucratic organization –says Kundera quoting one of Stifter characters– is such as the result of a system that "ensures that the necessary operations were carried out despite the heterogeneous competence of the officials distorting or weakening it". In other words, the fragmentation of knowledge and skills, the redundancy of functions and procedures is a passive defence against the possible incompetence of some element of the complex mechanism of the functioning of the state, whose understanding can –and perhaps must– escape to each individual.
With the support of renewed technologies, graphic communication, in fields ranging from medical research to the survey of architecture, seems to have taken a similar approach with conviction. Partially automated data capture procedures provide multidimensional matrices whose reading eludes common procedures. In many cases an automated data skimming is indispensable, perhaps with the support of modern algorithms. The taken data are so

many that in their apparent homogeneity they can appear silent and distant, unable to communicate any knowledge of reality. In this way, the knowledge that we outline, in fleeing the risk of an inadequate interpretation, ends up by not suggesting any. By supposing that we are freeing ourselves from the risks of personal discretion and from the arbitrariness of subjective interpretation, we end up delegating responsibility for understanding things to schematized procedures. In different fields –from evaluation procedures, to quality assurance practices, to the drafting of architectural projects– protocols are created which, in an attempt to avoid the intrinsic risks in the discretion of the intellect, promote the application of methods of taking and communicating measures which reduce our control over procedures. This mode has certainly shown its strengths several times. From the construction of legal strategies based on extensive repertoires of trial data to the search for procedural methods for the creation of vaccines, the assumption of formidable quantities of measures whose processing is entrusted to the computing power of generative algorithms has already produced convincing results. As a slogan of Comscore [2] says, a leader company for communication strategies on the web, "Making Measurement Make Sense". There is no doubt that this method constitutes the most promising path to follow for the construction of knowledge that has effective repercussions in the operational sphere. What worries is the although absolute impossibility of knowingly and autonomously managing stocks of such large measures, at least without delegating their reading to automated procedures.

If the use of the sense of measure determines effective communication and allows a profound understanding of the phenomena –specifically those described through the graphic signs– that is rooted in the competence and awareness of individual people, standardized procedures that start with immense data acquisitions constitute, in fact, the renunciation of understanding and a sort of institutionalization of our individual ignorance. The accumulation of measures beyond any apparent need –as in Steinberg's drawing– risks not only to remove any relationship with the object of measurement –as in Allais' music– but also to transform the field of our actions into a silent, impenetrable place, without references points –like Holiday's map.

In the Stifter novel quoted by Kundera, the protagonist renounces his role as a senior public administrator and moves to the countryside to attend only places, people, situations of which he has full knowledge and personal awareness. Rather than an escape of this kind –an epic and twilight response together– the challenge facing us and that concerns the sense of our modernity is to find a complex synthesis, a virtuous balance between the abysses of the fragmentation of knowledge and the fullness of individual awareness, between the application of shared procedures and the assumption of responsibility for judgment. And even in this case the solution can only benefit from our sense of measure.

Notes

[1] Sisa J. (1990). Joseph Hoffer and the Study of Ancient Architecture. In *Journal of the Society of Architectural Historians*, vol. 49, n. 4, pp. 430-439; Pennethorne, J. (1844). *The Elements and Mathematical Principles of the Greek Architects and Artists*. London: Pennethorne, J. (1878). *The Geometry and Optics of Ancient Architecture, London: Williams & Northgate*; Penrose, J. C. (1851). *An investigation of the principles of Athenian Architecture, Or The Results Of A Recent Survey Conducted Chiefly With Reference To The Optical Refinements Exhibited In The Construction Of The Ancient Buildings At Athens, By Francis Cranmer Penrose, Archt. M.A., Etc. Illustrated By Numerous Engravings. Published By The Society Of Dilettanti*. London: Printed By W. Nicol, Shakspeare Press, Pall Mall. Longman and Co., Paternoster Row, And John Murray.

[2] <http://www. comscore.com> (accessed 2020, June 24). On the topic of the collection, automatic processing and impenetrability of computer data, see the recent and essential Zuboff 2019.

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Reference List

Allais, A. (1897). *Album primo-avrilesque*. Paris: Ollendorff Éditeur.

Basile, G. B. F. (1884). *Curvatura delle linee dell'architettura antica con un metodo per lo studio dei monumenti. Epoca dorico-sicula*. Palermo: Tipografia del giornale "Lo Statuto".

Calvino, I. (1993). *Lezioni Americane. Sei proposte per il prossimo millennio*, pp. 63-88. Milano: Mondadori.

Carroll, L. (1876). *The Hunting of the Snark. An Agony in Eight Fits*. London: Macmillan Publishers.

Dotto, E. (2009). Il "Duomo di Monreale illustrato" di Domenico Benedetto Gravina. In AA. VV., *Ikhnos 2009. Analisi grafica e storia della rappresentazione*, pp. 73-104. Siracusa: Lombardi Editori.

Dotto, E. (2011). Disorientarsi. L'atopia del punto di vista. In AA. VV., *Idee per la rappresentazione 4. Trascrizioni*. Atti del seminario. Palermo, 3 marzo 2011, pp. 324-331. Roma: Artegrafica PLS.

Dotto, E. (2012). Il senso della misura. Precisione e conoscenza nel trattato sulla "Curvatura" di Giovan Battista Filippo Basile. In AA. VV. *Ikhnos 2011. Analisi grafica e storia della rappresentazione*, pp. 169-186. Siracusa: Lombardi Editori.

Ginzburg, C. (1986). Spie. Radici di un paradigma indiziario. In Ginzburg, C. *Miti emblemi spie. Morfologia e Storia*, pp. 158-209. Torino: Einaudi.

Gravina, D. B. (1859-1870). *Il Duomo di Monreale, Illustrato e riportato in tavole cromolitografiche*. Palermo: Stabilimento Tipograf. di F. Lao.

Helg, F. (1988). Tradizione e contemporaneità nel dettaglio. In *Il dettaglio non è un dettaglio. Atti del II Seminario di Primavera*, Palermo, 23-25 maggio 1985, pp. 158-162. Palermo: Flaccovio Editore.

Kundera, M. (2005). *Il sipario*. Milano: Adelphi.

Steinberg, S. (1949). *The Passport*. New York: Harper & Brothers.

Zuboff, S. (2019). *Il capitalismo della sorveglianza. Il futuro dell'umanità nell'era dei nuovi poteri*. Bologna: Luiss University Press.