The Pyramids of Gaza

The pyramids of Gaza, as a Forensic Architect once told me, proliferate throughout the Strip but are most commonly seen in the camps and neighborhoods that ring Gaza City, and along the short border to Egypt. They are the result, he said, of an encounter between two familiar elements in the area—a three-story residential building, of the kind that provides a home for refugees, and an armored Caterpillar D9 bulldozer. While the bulldozer circles the building, its short shovel can reach and topple only the peripheral columns. The internal columns are left intact, forming the peak of the pyramid. The floor slabs break at their approximate center, around the crest, then fold down and outward to form the faces of the structure.

The geometry of the pyramids of Gaza is less ideal than that of the Pyramids of Giza. Their irregularities register differences in the process of construction—the uneven spread of concrete, for example—or in the process of destruction—the inability (or reluctance) of the bulldozer operator to go completely around the building. Sometimes, the irregularity is a result of a previous freight or a tank shell, shot at a corner of the building to hasten the departure of its inhabitants. Near the border, one can sometimes see a fallen pyramid that has sunk into a collapsed tunnel. Partially exposed under the fine sands of Rafah, the scene resembles that of a colonial-era archaeological expedition.

The Era of Forensics

Within the field of war-crime investigation, a methodological shift has recently led to a certain
The primacy accorded to the witness, and to the subjective and linguistic dimension of testimony, trauma, and memory—a primacy that has had such an enormous cultural, aesthetic, and political influence that it has reframed the end of the twentieth century as “the era of the witness”—is gradually being supplemented (not to say bypassed) by an emergent forensic sensibility, an object-oriented juridical culture immersed in matter and materialities, in code and form, and in the presentation of scientific investigations by experts.

The Surface of the Earth

With the urbanization of conflict, architecture has become the pathology of this era. Geospatial data, maps and models of cities and territories, the “enhanced vision” of remote sensing, 3-D scans, air and ground sampling, and high-resolution satellite imagery redraw the surface of the earth in variable resolutions from the bottom of the seabed to the remnants of bombed-out buildings. The surface of the earth—now increasingly called upon to perform as evidence/witness in political negotiations, international tribunals, and fact-finding missions—has a certain thickness, but it could not be considered a volume. It is not an isolated, distinct, stand-alone object, nor did it ever “replace” the subject; rather, it is a thick fabric of complex relations, associations, and chains of actions between people, environments, and artifices. It inevitably overflows any map that tries to frame it, because there are always more connections to be made.

Surface Pathology

In this context, architecture is both sensor and agent. Sensor, in what way? We think of architecture as a static thing, but physical structures and built environments are elastic and responsive. Architecture, I once proposed, is “political plastic”—social forces slowing into form.[1] This is true on the scale of a building and also on that of larger territories. Buildings undergo constant deformations: structures are said to “behave” in response to forces, and buildings are said to “perform” (or mis-perform) in relation to program. It takes years for trapped air bubbles to make their way between paint layers and structure; the path and rate of their crawl depending on larger environmental conditions and their constant fluctuations; walls gradually bend and ceilings sag. Deterioration and erosion continue the builders’ processes of form-making. Cracks make their way from geologic formations across city surfaces to buildings and architectural details. Moving within and across inert matter and built structures, they connect mineral formations and artificial constructions. They appear and disappear, continuously translating contradictions of force into their lines of least resistance.

The structural pathology of a building is a diagram that records the influence of an entangled and potentially infinite political/natural environment, registering year-on-year temperature changes, almost imperceptible fluctuations in humidity and pollution, which are themselves indications of political transformations, patterns, and tendencies. A blast, however, marks a limit to the responsive elasticity of built structures. An explosion causes a rapid release of energy in the form of sound, heat, and shock waves. The shock wave travels across the structure, increasing pressure on the walls and floor slabs. External walls bend inward, reaching their point of no return, and snap, initiating a progressive collapse. Floors pancake onto one another. Air is sucked in to fill the vacuum, carrying flying glass, steel, and stone. In today’s wars, people die when bits of their homes come flying at them at high speed. Later, when these fragments settle across larger areas, the way in which they do so might be interpreted as evidence.

Forum

Derived from the Latin forensis, the word “forensics” refers at its root to “forum.” Forensics is thus the art of the forum—the practice and skill of presenting an argument before a professional, political, or legal gathering. Forensics is in this sense part of rhetoric, which concerns speech. However, it includes not only human speech but also that of things. Because objects cannot actually speak, there is a need for a “translator” or an “interpreter”—a person or a set of technologies to mediate between the thing and the forum. This was once the role of the rhetoricians who used a
technique that the Greeks and Romans called *prosopopoeia*—a mode of speaking on behalf of inanimate objects—and is now the role of the scientist as expert witness. In discussing “giving a voice to things to which nature has not given a voice,” the rhetorician Quintilian writes of the power of *prosopopoeia* to not only “evoke the dead”—as forensic pathologists do in international tribunals today—but of “giving voices to cities and states”—the thick surfaces of Forensic Architecture. Forensics thus organizes the relation among three constituents: a thing, an “interpreter,” and a forum. Because the thing and its “interpreter” make up an entangled rhetorical technology, in order to refute a forensic statement it is necessary to dismantle its mechanisms of articulation—which means to show either that the object is inauthentic, that its interpreter is biased, or that the communication between them is short-circuited.

Forensic Architecture refers to the work of expert witnesses who present structural analysis in a legal context. Their practice combines the principles of property surveying, structural engineering, the physics of blast forces, and the chemistry of composite materials. In that sense, Forensic Architecture is the archaeology of the very recent past, but it must also be a form of assembling for the future. The latter is a projective practice engaged with inventing and constructing the forums yet to come. In war-crime investigations, the evidence most often precedes the forum. It is around found evidence—the thick surfaces of mass graves in Rwanda, Guatemala or Bosnia, for example—that new forums assemble. The forum will emerge around the building that is destroyed. But the forum is not a given space; rather, it is produced through a series of entangled performances. Each of its expansions is also a transformation. When the forum already exists, the entry into it of new types of objects, technologies of interpretation, or new types of representation will not simply expand but also transform it. The protocols and languages of the forum will be reorganized around new aesthetic, material, and systemic demands. Forums are immanent, contingent, diffused, and networked; they appear, they expand and contract, or simply burst like soap bubbles and disappear.

Forensic Aesthetics

Forensics thus includes both *fieldwork* and *forum work*. It is not only about science as a tool of investigation—the *field*—but about science as a means of persuasion—the *forum*. It is crucially about *conviction*—not that of other scientists (as in a regulated process of peer review) but that of judges, juries, or publics. Forensic Aesthetics is the mode of appearance of things in forums—the gestures, techniques, and technologies of demonstration; methods of theatricality, narrative, and dramatization; image enhancement and technologies of projection; the creation and demolition of reputation, credibility, and competence.21

Forensic Architecture

Sub/Ob-jective Probability

In a recent international trial, a controversy surrounding the causes for the destruction of a particular building erupted. The scenario described
by the defense and the prosecution varied considerably. An expert witness was asked to study the particular disposition of the rubble, now scattered throughout a large area, in order to determine which of the scenarios was correct or closest. The threshold of probability requested was 85 percent. Probability measures the likelihood that an event will have occurred. Probability could thus be understood as the way in which doubt exists in relation to objects. Debates, disagreements, and cross investigations are about reducing or increasing the balance of probabilities.

Philosopher Ian Hacking has explained that probability has both subjective and objective meanings. “Subjective probability,” he claims, has to do with evaluating the authority of witnesses—traditionally in terms of social status, nobility or wealth. In this sense, the term “probable” meant something like credible or approvable, and appealed to authority and consensus; thus, as the eighteenth century was about to close, Edward Gibbon could still write in *The History of the Decline and Fall of the Roman Empire* that “such a fact is probable but undoubtedly false,” without feeling any contradiction. “Objective probability”, on the other hand, relates to the properties of the object or phenomenon under analysis. In the mid-seventeenth century, the second meaning of probability started shifting the first. But the two continuously intertwine and entangle; forensics is about the probability of the expert to decipher the events as marked on the surface of the earth.

**Schrödinger’s House**

If, as quantum mechanics has it, all options within the spectrum of probability exist simultaneously until an act of observation forces one option into exclusive existence, then Schrödinger’s cat is indeed both living and dead, and the wartime ruin, the house where she might have lived, has been twice destroyed—once by each of the scenarios proposed in the above trial. Science and law measure truth as a position on a variable scale of probability. Terms such as the “balance of probability” and “beyond a reasonable doubt” reveal the constant ticking of probability calculations. Scientific literature simply notes the measure of uncertainty and the margin of error; but law—like politics—must render decisions, even if those decisions are based on a fuzzy forensics of probabilities. Decision, if the word is to merit its name, is to be taken in excess of calculations. It will, most often, kill the cat.

Aesthetics, as the judgment of the senses, is what rearranges the field of options and their perceived likelihood and cuts through probability’s economy of calculation. The word “conviction” could thus draw a line between the legal verdict of “guilty” and the subjective sensation of constructed belief. If law and politics are based on ruptural decisions, must the practice of history follow suit? Could it instead remain faithful to the non-mutually exclusive nature of probability? Should there be two or rather several memorials to acts of destruction, built side by side? If so, how does one avoid this practice falling into the hands of historical revisionists?

**Material Proportionality**

If probability measures the correct balance between confirmation and refutation, the international law principle of proportionality comes to determine the correct balance between rights and wrongs, common goods and necessary evils. The principle of proportionality operates by conjuring an economy in which good and bad things could be measured, balanced, transferred, and traded. The question of violence comes to resemble a mathematical-minimum problem in the economy of variations. It is in its attempt to reduce violence to the lowest level possible that proportionality becomes the contemporary manifestation of Pangloss’ Leibnizian principle (or is it Leibniz’s Panglossian principle?) of “the best of all possible worlds.”

If proportionality is about the “too much,” then we must ask, how much is too much? In the run-up to the American invasion of Iraq, the Pentagon instructed its bombers to try to limit to twenty-nine the number of civilians killed in attacks aimed at political leaders. The thirtieth civilian marked the threshold between sacrifice and crime. An attempt was then made to apply this necro-economy to the precise destruction of building parts—an art of “design by destruction” that translated projected casualties to removing building parts.
**proportionality** should be the name for the process by which the economy of violence intersects with the science of engineering and the shaping of ruins. If sovereignty is best understood as the power to calculate on behalf of others, then the evasion of its power is best exercised in making one’s actions incalculable or immeasurable.

**Trials of Things**

In what way are buildings agents? Built environments are composite assemblies of structures, spaces, infrastructure, services, and technologies with a certain capacity to act and interact with their surroundings. They structure rather than simply frame events, although never perfectly so. The attribution of liability to material things is almost as old as law itself. It can be traced to the origins of ancient Greece, where a class of Athenian judges presided over a special court in charge of cases brought against unknown agents and inanimate objects. Miguel Tamen, who discussed this capacity of things, described a curious incident in which a statue of Theagenes, made after the athlete’s death, was beaten by one of his rivals by way of revenge, until the statue fell and killed him. The statue was put on trial for murder, judged guilty, and thrown into the sea, only to be reinstated years later.[6]

The proportionality principle of international humanitarian law offers a contemporary method of passing judgment on things. The trials of the West Bank Separation Wall in Jerusalem, for example, were not trials of people but rather trials of an apparatus. Instead of witnesses, maps and territorial models were called in. Proportionality was used as the legal measure to judge and moderate the behavior of the wall. The wall was found to disproportionately violate an entire territory that included people, fields, houses, roads, military bases, colonies. The verdict demanded that the apparatus should change its route—into what was later argued to be “the best of all possible walls”; and so aggressive acts of colonization and dispossession were presented as a tragic necessity administered with care and responsibility.

**Forensic Fetishism**

In the wake of the war-crime investigations following Israel’s 2008/9 attack on Gaza, one of the world’s foremost Forensic Architects, assembling evidence against the military, was suspended when it was publicly revealed—to great media fanfare—that he was a collector of Nazi era fetish items, and thus allegedly unsuited to impartially investigating the Israeli military. I thought that, if true, the fact that he had such a collection should, to the contrary, increase his credibility (or shall we say his probability?). If fetishism is the attribution of an inherent power and a certain agency to inanimate objects, then what do we expect those experts who speak to buildings and cities (and expecting them to speak back) to be?

Beyond its manifestation in commodity or sexual form, it is in forensics that the fetish is most commonly manifested today. Here, the fetish is not the mystifying and obfuscating veil that masks the true way in which objects are made in the world—a feature of capitalism that Marx identified in commodity fetishism—or the part that stands for the lack of the whole. On the contrary: under the microphysical lens of methodological fetishism, it is in the part that we can find folded into the fabric of complex social relations, imprinted political forces, inscribed events; conjunctions of actors and logics of practice are not crushed on the object but rather traverse it, sometimes held together by it. This conjunction of forensics and fetish is a rather comical reference to what, in a polemic against iconoclastic critique, Bruno Latour called the “factish”—a term that merges the objectivity of facts with the mysterious attraction and autonomous power of fetishes.[7]
The Destruction of Destruction

If fetishes are to be destroyed by their modern enemies, what fate should be reserved for a fetish that is already a ruin? How to destroy the destruction? In the spring of 2009, the Gaza-based and Hamas-run Ministry of Public Works and Housing compiled an astounding archive containing thousands of entries, each documenting a single building that was completely or partially destroyed, from cracked walls to houses reduced to rubble. Each entry in this book of destruction included a single, frontal-view photograph displaying a catalogue number spray-painted onto the ruin itself. Each file also recorded how the damage to the building was inflicted: “destroyed by armored D9 bulldozers,” “bombed from the air,” “shelled from the ground,” “directly targeted,” “indirectly struck,” or subject to “controlled demolition by explosives”; and the state of the building: “reduced to rubble,” “partially destroyed,” or “still standing but dangerous and requiring demolition.”

In reconstructing histories of violence from the trash and rubble left behind, this archive is another instance of Forensic Architecture. Both practical and political, its forensics escapes, however, the limited frame of international law. The destruction of refugee camps is often understood as “the destruction of destruction”—the destruction of the destruction of Palestine. The camp is not a home; it is a temporary arrangement. Its rubble is the last iteration in an ongoing process of destruction that connects the destroyed village of 1948 to the destroyed camp of 2009, but the destruction of the latter is also interpreted as possessing a restorative potential. What could the forensics of the “destruction of destruction” be?

The twelfth-century Andalusian scholar ibn-Rushd (Averroes) penned a treatise of this very name—Tahafut al-Tahafut—in which he refuted the refutation of classical philosophy proposed by Sufi ascetic Ghazali in his eleventh century Tahafut al-Falasifa. So is it the refutation of the displacement—a proto-Hegelian negation of the negation—here applied to the realm of political domesticity? Should we be packing up for return, when all we can do is to clear up the mess and rubble, destroy the fetish of the pyramids, recycle their components, and start rebuilding the camp all over again, and better this time? Rebuilding the camp does not stand in contradiction to return; rather, it is its precondition. [8]

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REFERENCES


[2] Quintilian’s Institutes of Oratory, bk. 9, ch. 2.


“Schrödinger’s Cat” was a thought experiment devised by Austrian physicist Erwin Schrödinger in 1935, which he described as follows in the journal Naturwissenschaften: “A cat is penned up in a steel chamber, along with the following device (which must be secured against direct interference by the cat): in a Geiger counter, there is a tiny bit of radioactive substance, so small that perhaps in the course of the hour, one of the atoms decays, but also, with equal probability, perhaps none; if it happens, the counter tube discharges, and through a relay releases a hammer that shatters a small flask of hydrocyanic acid. If one has left this entire system to itself for an hour, one would say that the cat still lives if meanwhile no atom has decayed. The psifunction of the entire system would express this by having in it the living and dead cat (pardon the expression) mixed or smeared out in equal parts.

www.tcd.ie/Physics/Schools/what/atoms/quantum/cat.html (acceded October 2011)

