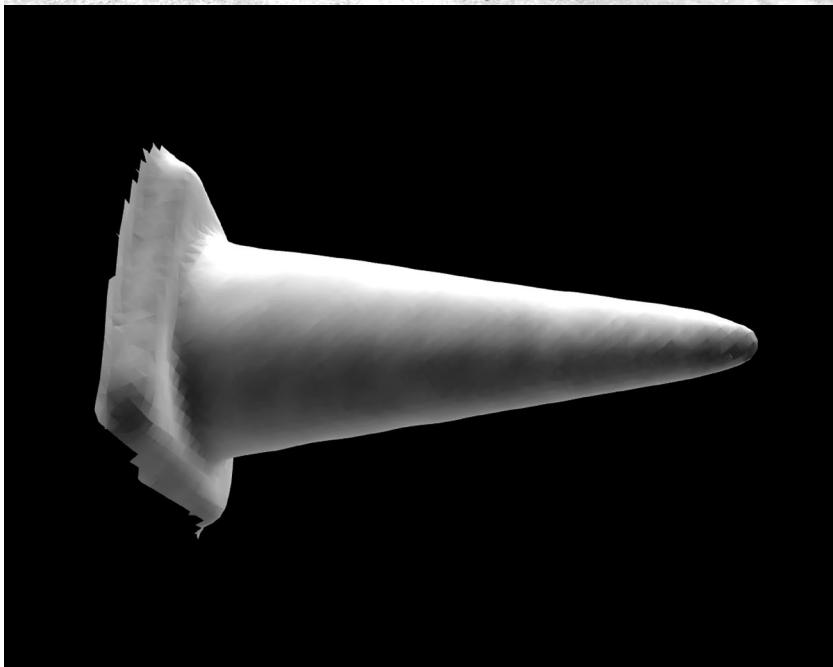
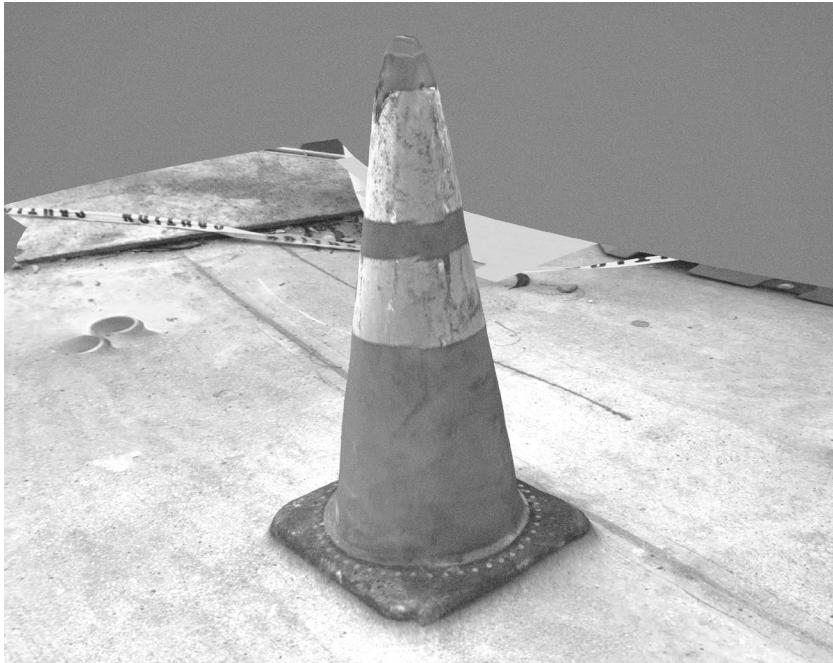


PHOTOGRAMMETRIC



DIGITIZING THE GEOMETRIC SHAPES PROVIDED
BY 3D SOFTWARE USING 3D SOFTWARE

STILL LIFES

Photogrammetry is the science of making measurements from photographs, especially for the use of recovering the exact positions of surface points. It may also be used to recover the motion pathways of designated reference points on any moving object, on its components, and in the immediately adjacent environment.

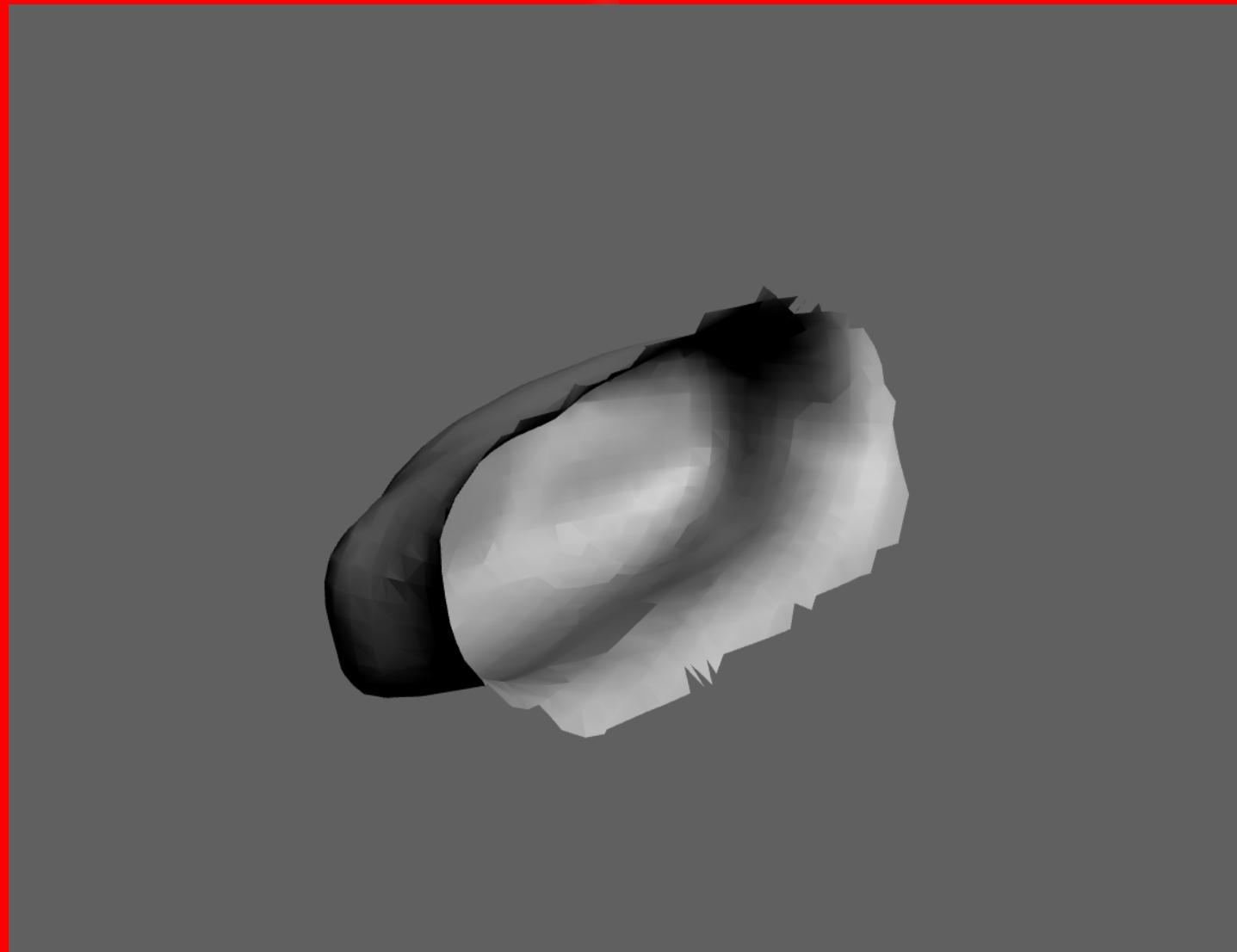
A list was compiled of the basic building blocks that a 3D program provided. Among those items was the sphere, tube, plane, landscape, cone, torus, cylinder, and cube. Then, using photogrammetry, physical objects that resembled the essential shape were 3D scan using the scanning app Trnio.

In a way, this project serves as the jumping off point to future experiments involving 3D programs and software, to test the capabilities of each one, observe their interaction with one another, and to investigate the gray zone between the physical and artificial.

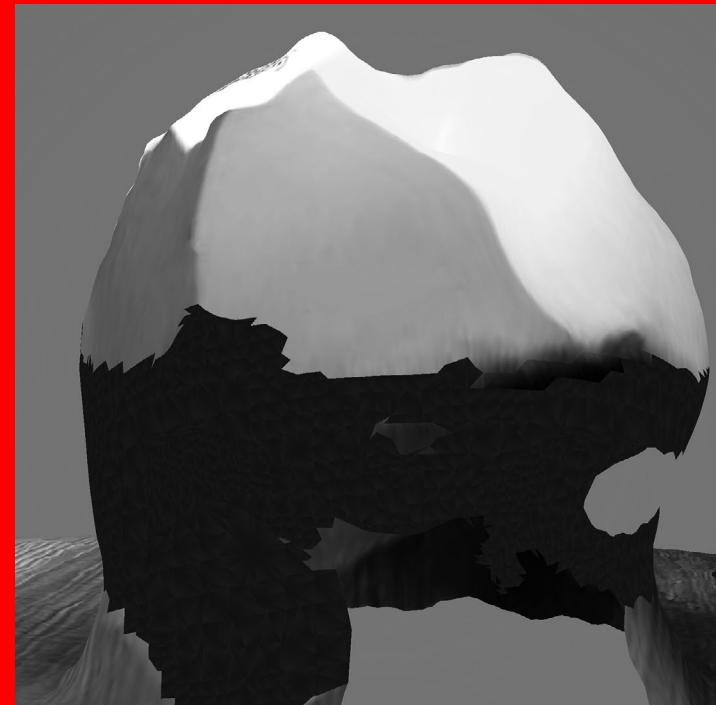
- 1 Sphere ← → Beach Ball
- 2 Tube ← → Toilet Paper
- 3 Plane ← → Piece of Paper
- 4 Landscape ← → Pebbles
- 5 Cone ← → Traffic Cone
- 6 Torus ← → Metal Ring
- 7 Cylinder ← → Chapstick
- 8 Cube ← → Single Die
- 9 Capsule ← → Vitamin C Pill

Make sure “Trust this documents always” is selected to enable 3D interaction.

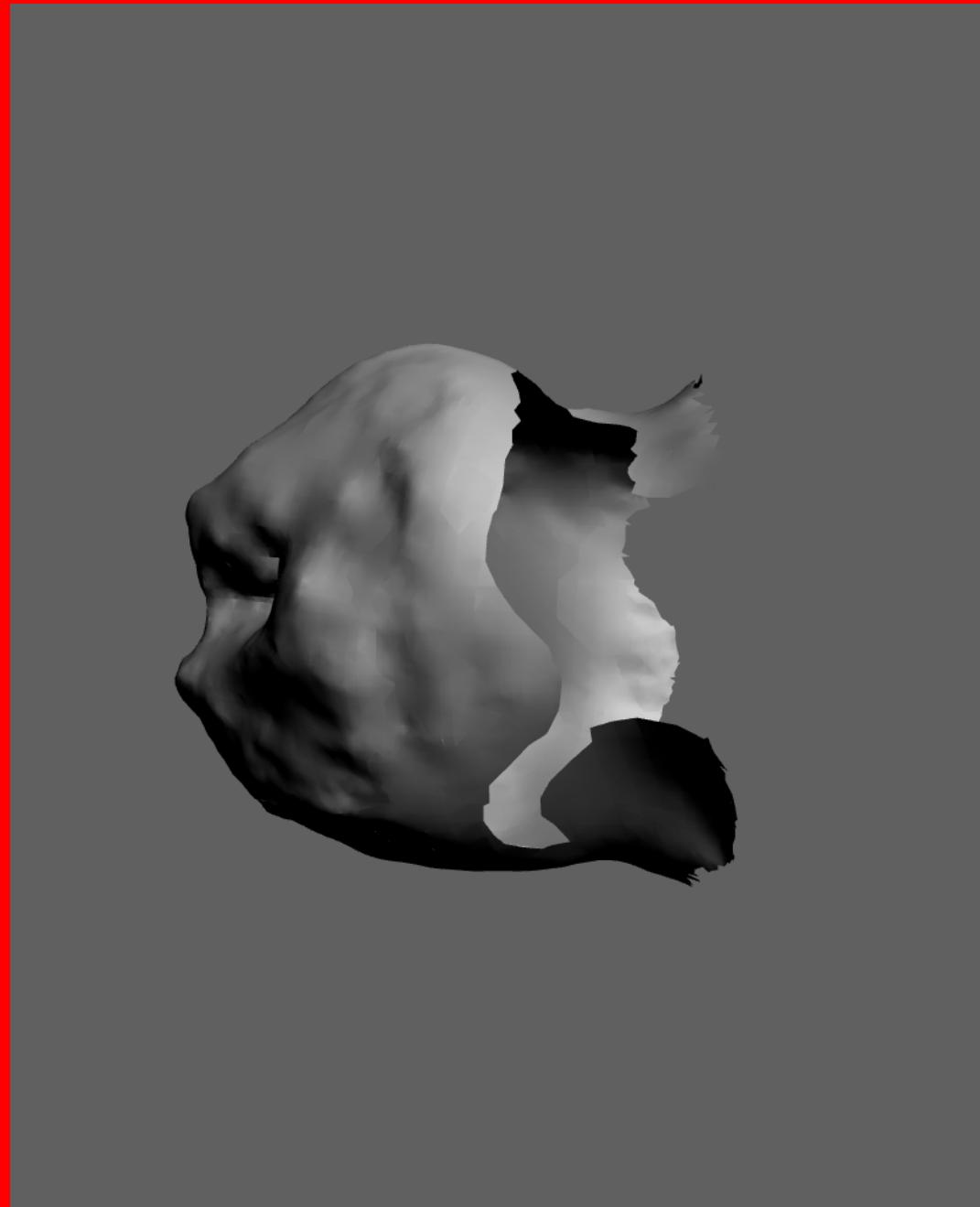
Large objects on black backgrounds are interactive.



1



SPHERE ← → BEACH BALL



Color(s)	Red, Blue, White, Yellow, Green, Blue
Object Size	Approx. 2ft. 5in.
Material(s)	Plastic
Polygon Count	425 polygons
Image Size	3.4mb
Polygon Sections	3

ESSAY X
Circles

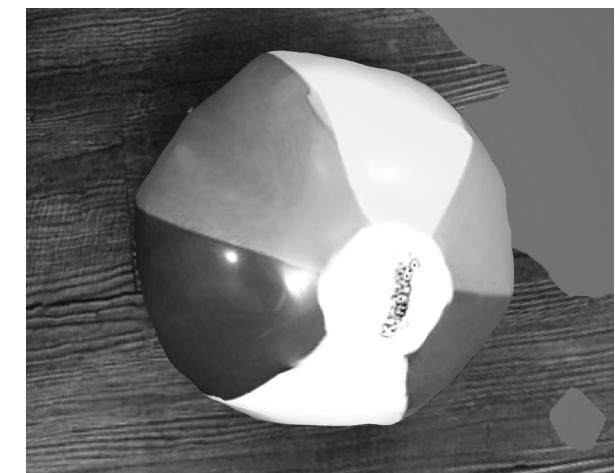
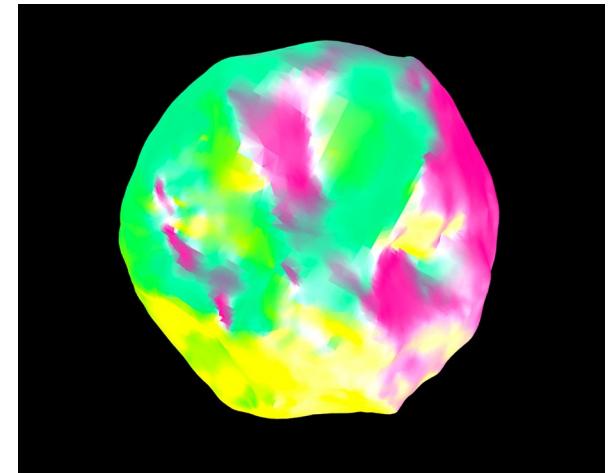
Ralph Waldo Emerson

The eye is the first circle; the horizon which it forms is the second; and throughout nature this primary figure is repeated without end. It is the highest emblem in the cipher of the world. St. Augustine described the nature of God as a circle whose centre was everywhere, and its circumference nowhere. We are all our lifetime reading the copious sense of this first of forms. One moral we have already deduced, in considering the circular or compensatory character of every human action. Another analogy we shall now trace; that every action admits of being outdone. Our life is an apprenticeship to the truth, that around every circle another can be drawn; that there is no end in nature, but every end is a beginning; that there is always another dawn risen on mid-noon, and under every deep a lower deep opens.

This fact, as far as it symbolizes the moral fact of the Unattainable, the flying Perfect, around which the hands of man can never meet, at once the inspirer and the condemner of every success, may conveniently serve us to connect many illustrations of human power in every department.

There are no fixtures in nature. The universe is fluid and volatile. Permanence is but a word of degrees. Our globe seen by God is a transparent law, not a mass of facts. The law dissolves the fact and holds it fluid. Our culture is the predominance of an idea which draws after it this train of cities and institutions. Let us rise into another idea: they will disappear. The Greek sculpture is all melted away, as if it had been statues of ice; here and there a solitary figure or fragment remaining, as we see flecks and scraps of snow left in cold dells and mountain clefts, in June and July. For the genius that created it creates now somewhat else. The Greek letters last a little longer, but are already passing under the same sentence, and tumbling into the inevitable pit which the creation of new thought opens for all that is old. The new continents are built out of the ruins of an old planet; the new races fed out of the decomposition of the foregoing. New arts destroy the old. See the investment of capital in aqueducts made useless by hydraulics; fortifications, by gunpowder; roads and canals, by railways; sails, by steam; steam by electricity.

You admire this tower of granite, weathering the hurts of so many ages. Yet a little waving hand built this huge wall, and that which builds is better than that which is built. The hand that built can topple it down much faster. Better than the hand, and nimbler, was the invisible thought which wrought through it; and thus ever, behind the coarse effect, is a fine cause,

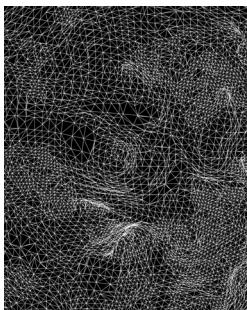


You admire this tower of granite, weathering the hurts of so many ages. Yet a little waving hand built this huge wall, and that which builds is better than that which is built. The hand that built can topple it down much faster. Better than the hand, and nimbler, was the invisible thought which wrought through it; and thus ever, behind the coarse effect, is a fine cause, which, being narrowly seen, is itself the effect of a finer cause.



Every thing looks permanent until its secret is known. A rich estate appears to women a firm and lasting fact; to a merchant, one easily created out of any materials, and easily lost. An orchard, good tillage, good grounds, seem a fixture, like a gold mine, or a river, to a citizen; but to a large farmer, not much more fixed than the state of the crop. Nature looks provokingly stable and secular, but it has a cause like all the rest; and when once I comprehend that, will these fields stretch so immovably wide, these leaves hang so individually considerable? Permanence is a word of degrees. Every thing is medial. Moons are no more bounds to spiritual power than bat-balls.

The key to every man is his thought. Sturdy and defying though he look, he has a helm which he obeys, which is the idea after which all his facts are classified. He can only be reformed by showing him a new idea which commands his own. The life of man is a self-evolving circle, which, from a ring imperceptibly small, rushes on all sides outwards to new and larger circles, and that without end. The extent to which this generation of circles, wheel without wheel, will go, depends on the force or truth of the individual soul.



For it is the inert effort of each thought, having formed itself into a circular wave of circumstance, — as, for instance, an empire, rules of an art, a local usage, a religious rite, — to heap itself on that ridge, and to solidify and hem in the life. But if the soul is quick and strong, it bursts over that boundary on all sides, and expands another orbit on the great deep, which also runs up into a high wave, with attempt again to stop and to bind. But the heart refuses to be imprisoned; in its first and narrowest pulses, it already tends outward with a vast force, and to immense and innumerable expansions.

Every ultimate fact is only the first of a new series. Every general law only a particular fact of some more general law presently to disclose itself. There is no outside, no inclosing wall, no circumference to us. The man finishes his story, — how good! how final! how it puts a new face on all things! He fills the sky. Lo! on the other side rises also a man, and draws a circle around the circle we had just pronounced the outline of the sphere. Then already is our first speaker not man, but only a first speaker. His only redress is forthwith to draw a circle outside of his antagonist. And so men do by themselves. The result of to-day, which haunts the mind and cannot be escaped, will presently be abridged into a word, and the principle that seemed to explain nature will itself be included as one example of a bolder generalization. In the thought of to-morrow there is a power to upheave all thy creed, all the creeds, all the literatures, of the nations, and marshal thee to a heaven which no epic dream

The result of to-day, which haunts the mind and cannot be escaped, will presently be abridged into a word, and the principle that seemed to explain nature will itself be included as one example of a bolder generalization. In the thought of to-morrow there is a power to upheave all thy creed, all the creeds, all the literatures, of the nations, and marshal thee to a heaven which no epic dream has yet depicted. Every man is not so much a workman in the world, as he is a suggestion of that he should be. Men walk as prophecies of the next age.

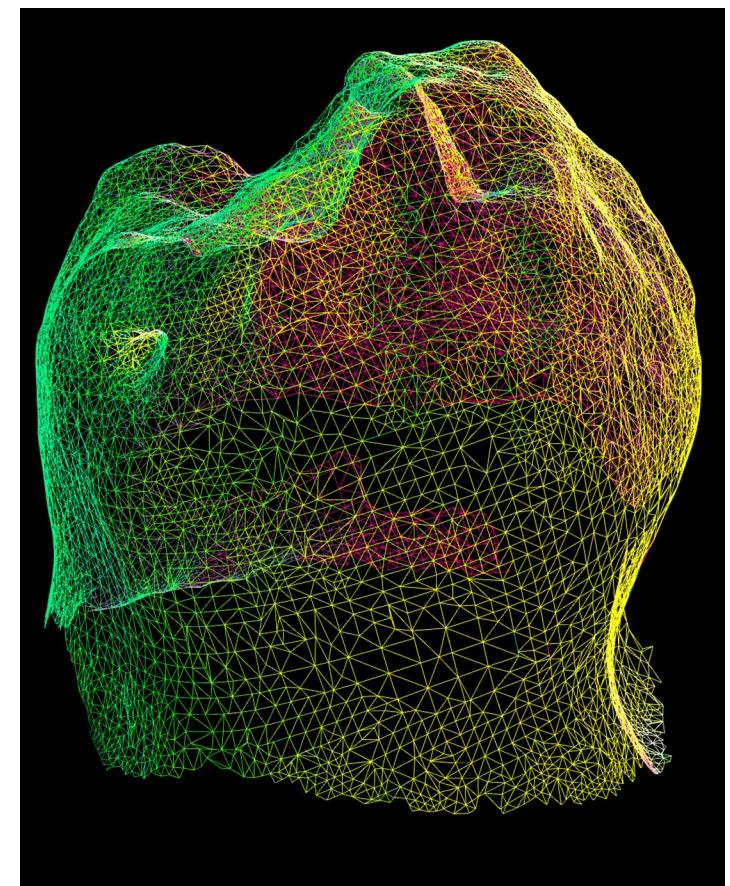
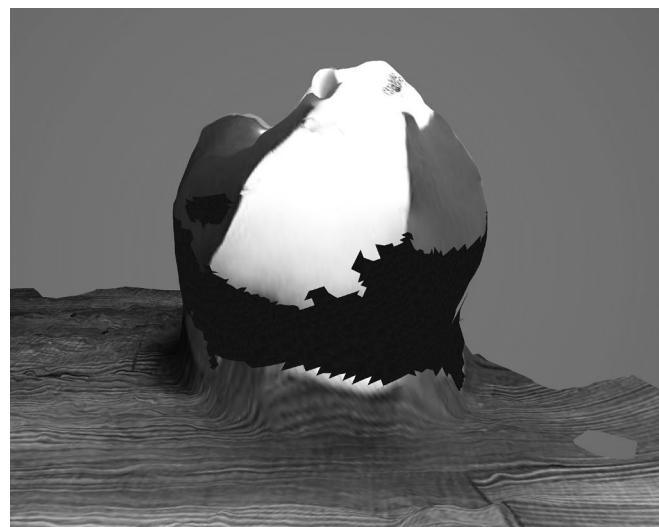
Step by step we scale this mysterious ladder: the steps are actions; the new prospect is power. Every several result is threatened and judged by that which follows. Every one seems to be contradicted by the new; it is only limited by the new. The new statement is always hated by the old, and, to those dwelling in the old, comes like an abyss of skepticism. But the eye soon gets wonted to it, for the eye and it are effects of one cause; then its innocence and benefit appear, and presently, all its energy spent, it pales and dwindle before the revelation of the new hour.

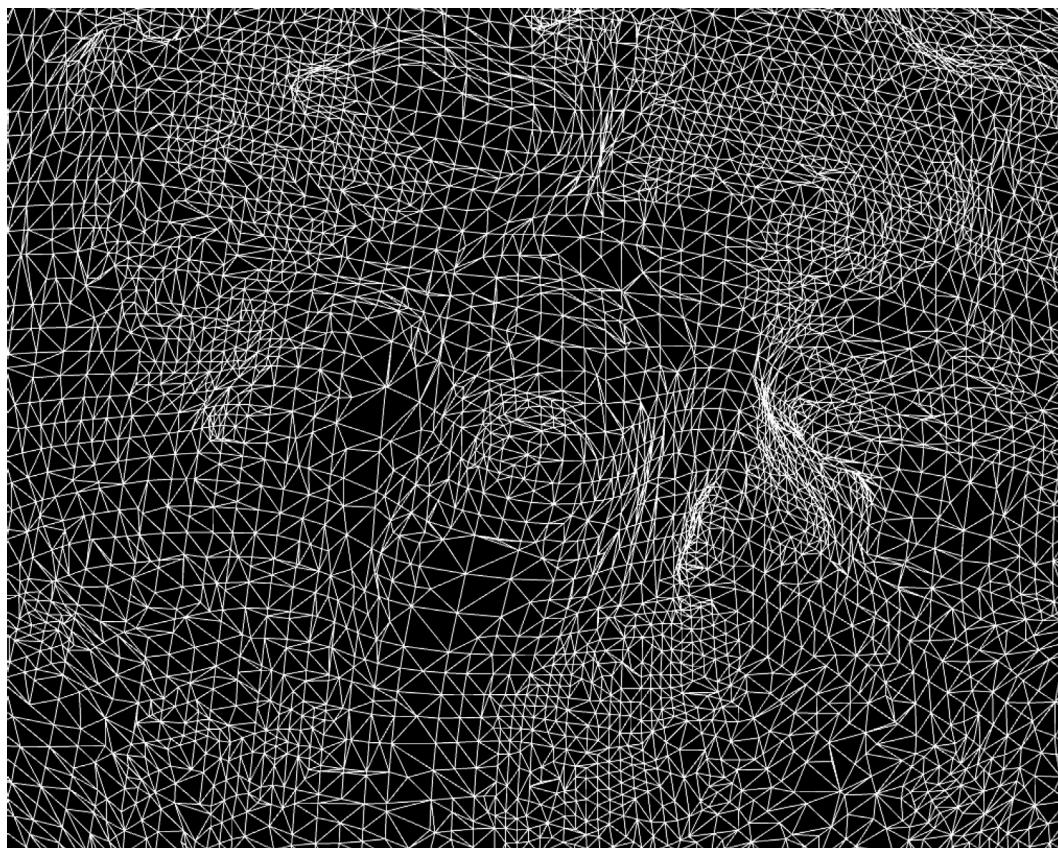
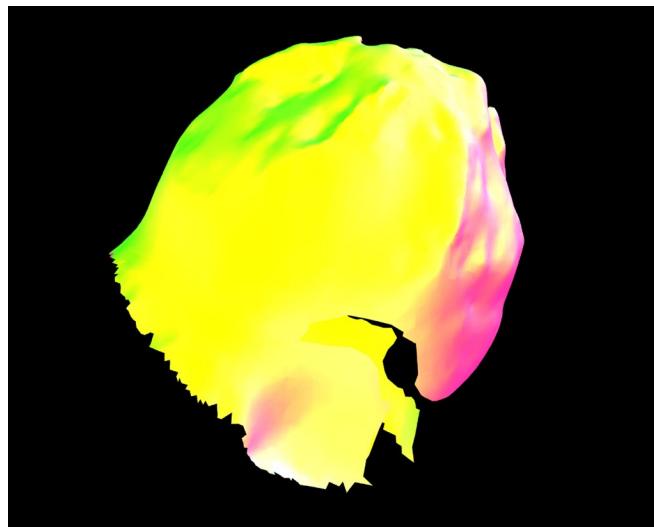
Fear not the new generalization. Does the fact look crass and material, threatening to degrade thy theory of spirit? Resist it not; it goes to refine and raise thy theory of matter just as much. There are no fixtures to men, if we appeal to consciousness. Every man supposes himself not to be fully understood; and if there is any truth in him, if he rests at last on the divine soul, I see not how it can be otherwise. The last chamber, the last closet, he must feel, was never opened; there is always a residuum unknown, unanalyzable. That is, every man believes that he has a greater possibility.

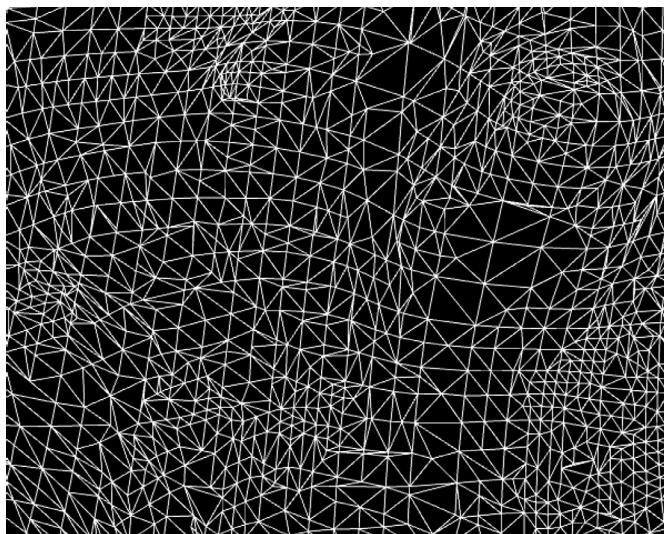
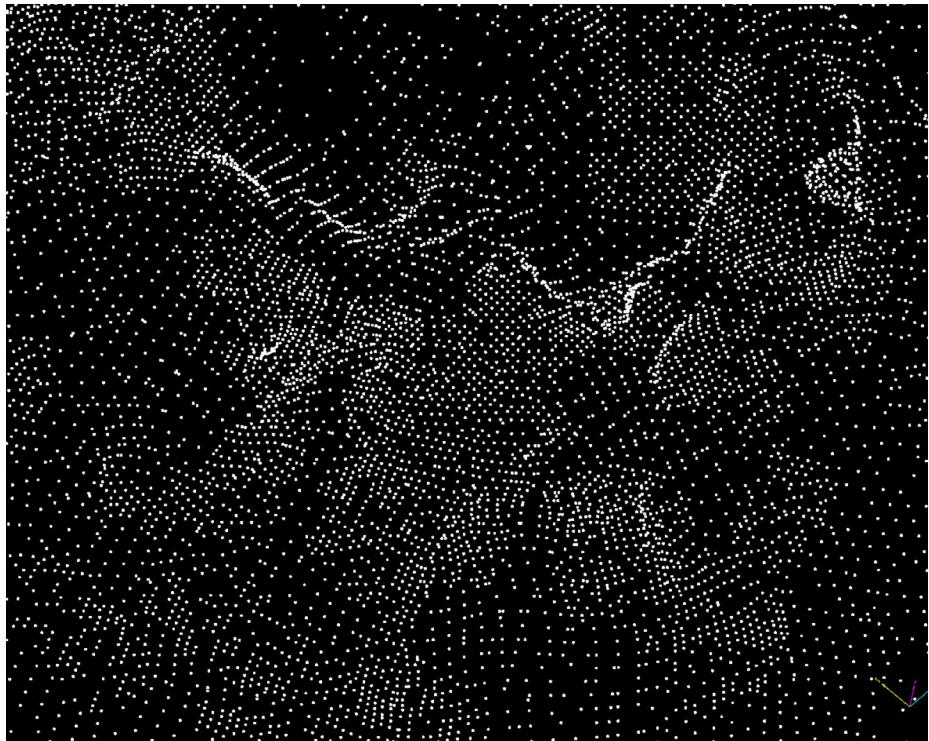


Our moods do not believe in each other. To-day I am full of thoughts, and can write what I please. I see no reason why I should not have the same thought, the same power of expression, to-morrow. What I write, whilst I write it, seems the most natural thing in the world; but yesterday I saw a dreary vacuity in this direction in which now I see so much; and a month hence, I doubt not, I shall wonder who he was that wrote so many continuous pages. Alas for this infirm faith, this will not strenuous, this vast ebb of a vast flow! I am God in nature; I am a weed by the wall.

The continual effort to raise himself above himself, to work a pitch above his last height, betrays itself in a man's relations. We thirst for approbation, yet cannot forgive the approver. The sweet of nature is love; yet, if I have a friend, I am tormented by my imperfections. The love of me accuses the other party. If he were high enough to slight me, then could I love him, and rise by my affection to new heights. A man's growth is seen in the successive choirs of his friends. For every friend whom he loses for truth, he gains a better. I thought, as I walked in the woods and mused on my friends, why should I play with them this game of idolatry? I know and see too well, when not voluntarily blind, the speedy limits of persons called high and worthy. Rich, noble, and great they are by the liberality of our speech, but truth is sad.



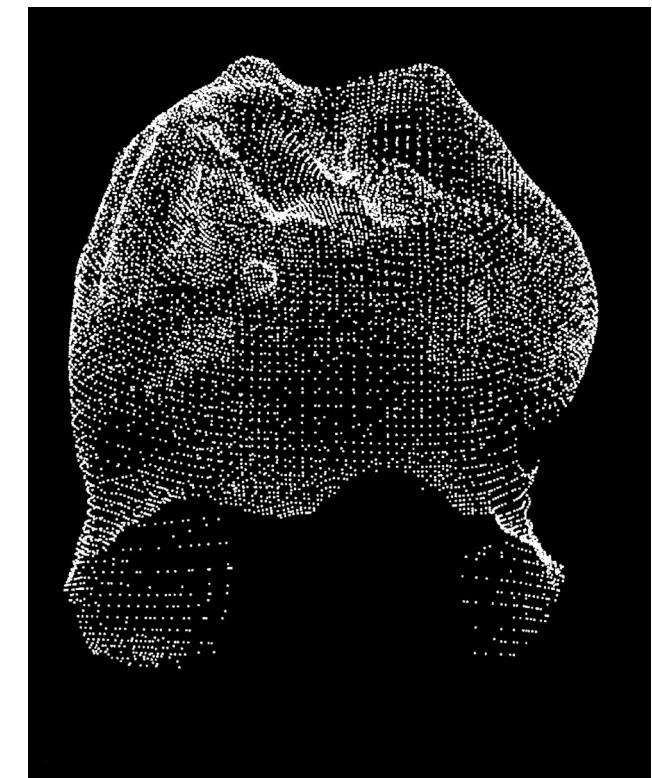




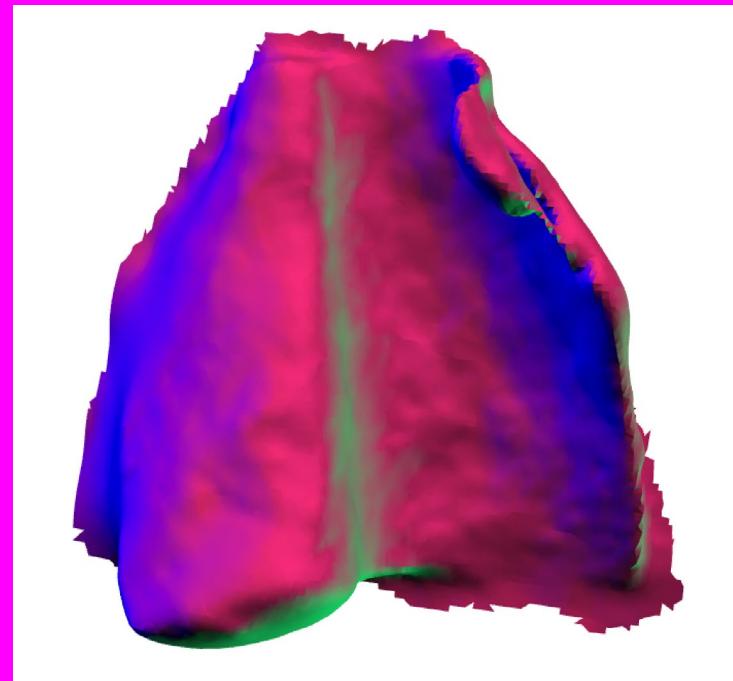
into fiery men, and by a flash of his eye burns up the veil which shrouded all things, and the meaning of the very furniture, of cup and saucer, of chair and clock and tester, is manifest. The facts which loomed so large in the fogs of yesterday, — property, climate, breeding, personal beauty, and the like, have strangely changed their proportions.

All that we reckoned settled shakes and rattles; and literatures, cities, climates, religions, leave their foundations, and dance before our eyes. And yet here again see the swift circumspection! Good as is discourse, silence is better, and shames it. The length of the discourse indicates the distance of thought betwixt the speaker and the hearer. If they were at a perfect understanding in any part, no words would be necessary thereon. If at one in all parts, no words would be suffered.

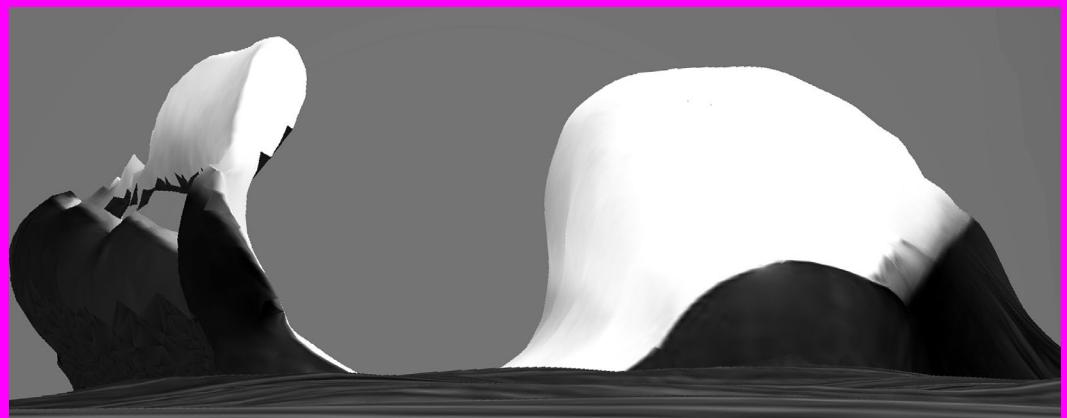
Literature is a point outside of our hodiernal circle, through which a new one may be described. The use of literature is to afford us a platform whence we may command a view of our present life, a purchase by which we may move it. We fill ourselves with ancient learning, install ourselves the best we can in Greek, in Punic, in Roman houses, only that we may wiselier see



2

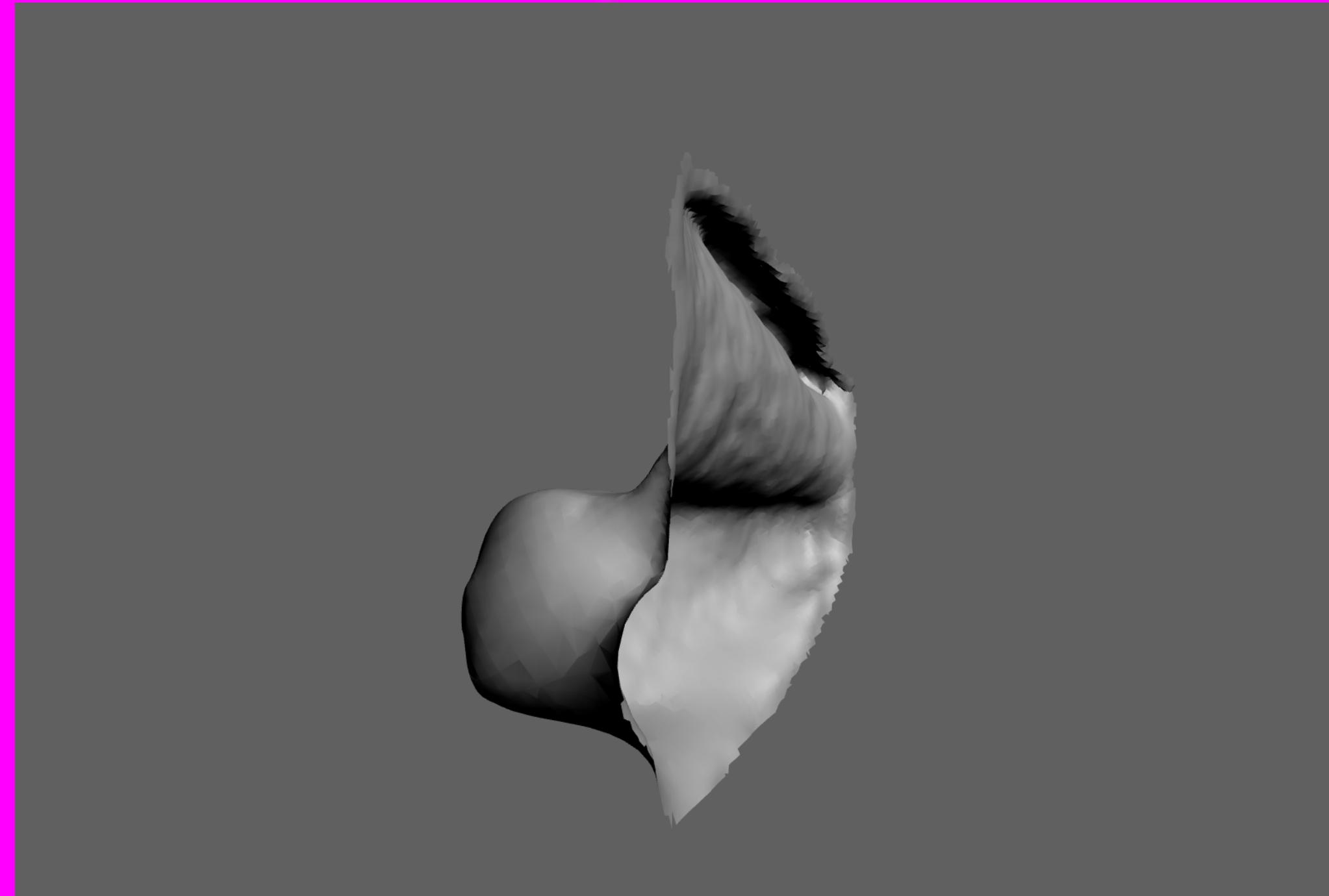


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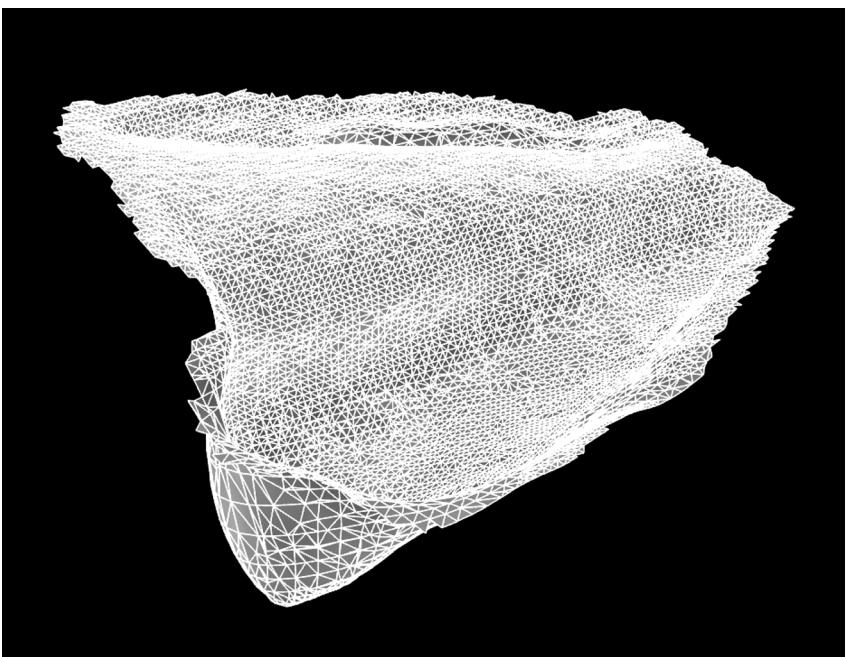
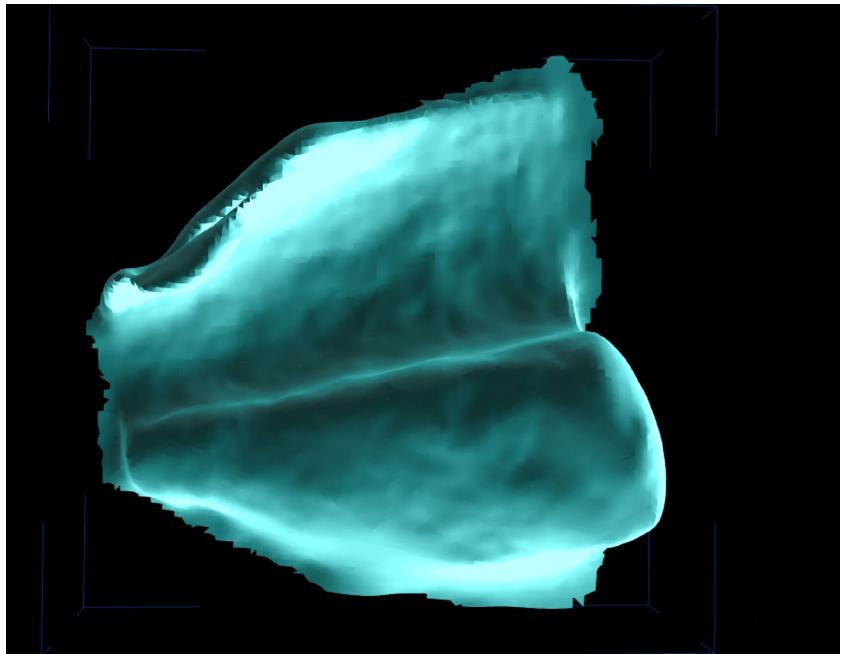
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Polygon Sections	3 sections
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*Math for Math's Sake:
Non-Euclidean Geometry,
Aestheticism, and Flatland*

Andrea Henderson

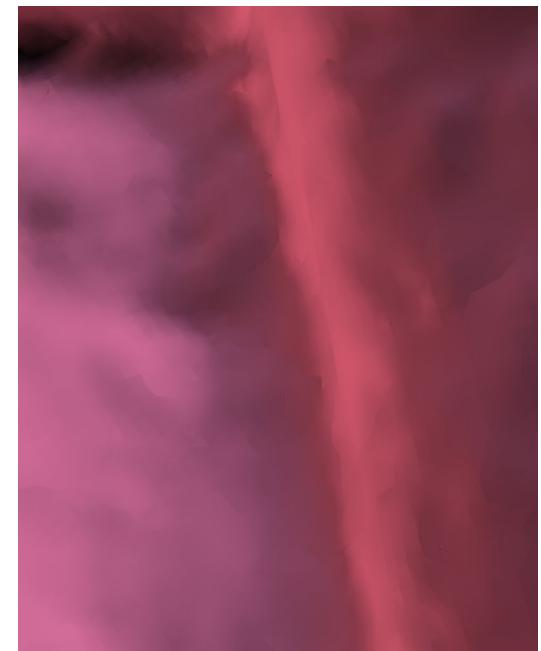
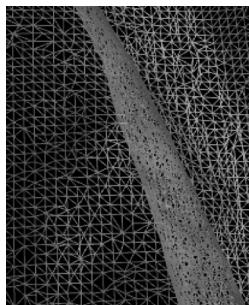
When samuel taylor coleridge speaks of “the mighty pile and fabric of truth, which (faith in God and the moral law alone excepted) is the proudest honour and glory of the human intellect,” it is surprising, wide-ranging though his interests are,to find that he speaks not of poetry or philosophy but of geometry (“On Mathematical... Synthesis” 199). Indeed, he not only rhapsodizes over geometry’s powers but finds the thought of a challenge to its privileged status as an *a priori* synthetic faculty “too monstrous to have ever been distinctly believed” (199). For Coleridge, the Euclidean conception of homogeneous space, along with the postulates and axioms that described the relations of points, lines, and figures in it, constituted an unimpeachable body of knowledge and an essential framework for thought itself.

Nor was he alone among his contemporaries in regarding geometry as the *summum bonum* of human knowledge. As the prominent mathematician William Kingdon Clifford explained, since the writing of Euclid’s Elements, Mathematic was no longer the merely ideal science of the Platonic school, but had started on her career of conquest over the whole world of Phenomena. The guide; for the aim of every scientific student of every subject was to bring his knowledge of that subject into a form as perfect as that which geometry had attained. (“Postulates” 552)

The science historian Joan Richards explains the reason for this preeminence: “the indubitability and exactness of geometrical truth were seen to be unique among man’s scientific insights. With geometry, humans seemed to have bridged the Cartesian gap between mind and body, to have transcended the confines of subjective being and attained a true understanding of the external world” But if geometry was the uncontested queen of the sciences in the first part of the nineteenth century, by mid-century new mathematical theories from the Continent were to challenge her preeminence. And because Euclidean geometry not only served as an epistemological lynchpin but also played a foundational role in education (we might think here of Tom Tulliver’s tutor in *The Mill on the Floss*, who believes “the classics and geometry constituted that culture of the mind which prepared it for the reception of any subsequent crop” [Eliot 139]), the unsettling effects of the challenge to geometry’s preeminence were felt beyond the handful of Cambridge University mathematicians who first responded to it. The new theories, instead of elaborating on Euclidean geometry, rethought its foundations. Such speculations were disruptive not



because they disproved Euclid or rendered his work obsolete; it was enough simply to have demonstrated that Euclidean space, so long regarded as the groundwork of knowledge, need not be taken as a given. To have shown this was to have shown that absolute knowledge was not available even in the domain of geometry. As Clifford explained in 1872, taking the new theories seriously meant recognizing that “exact” knowledge must be understood to be “different in kind from any knowledge that we now possess” (“Exactness” 550): For what Copernicus was to Ptolemy, that was Lobatchewsky to Euclid. . . . And the reason of the transcendent importance of these two changes is that they are changes in the conception of the Cosmos. . . . And in virtue of these two revolutions the idea of the Universe, the Macrocosm, the All, as subject to human knowledge, and therefore of human interest, has fallen to pieces. (“Postulates” 553–54) The effects of this Copernican revolution were felt not only in the sciences, broadly construed, but also in the arts. For just as the Euclidean system held out the promise of perfect scientific accuracy, it seemed to guarantee the possibility of representational transparency. The language and claims of geometry were understood to provide an objective account of the world. Moreover, Euclidean geometry had the virtue of being founded on a small set of precise definitions and being demonstrable by means of geometric constructions, physical models of abstract truth. A description of a course to be offered at University College in 1876 underscores the pedagogical value of such representations: “One of the great advantages of the purely geometrical methods is that all operations are performed by constructions, mostly in three dimensions. Thus the student learns to realize figures in space ...” (Henrici 31). Geometric figures were considered mimetic rather than merely conventional. Indeed, classical geometry set so high a standard for representational reliability that

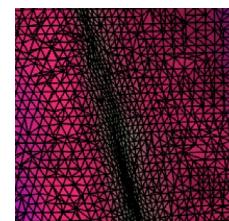


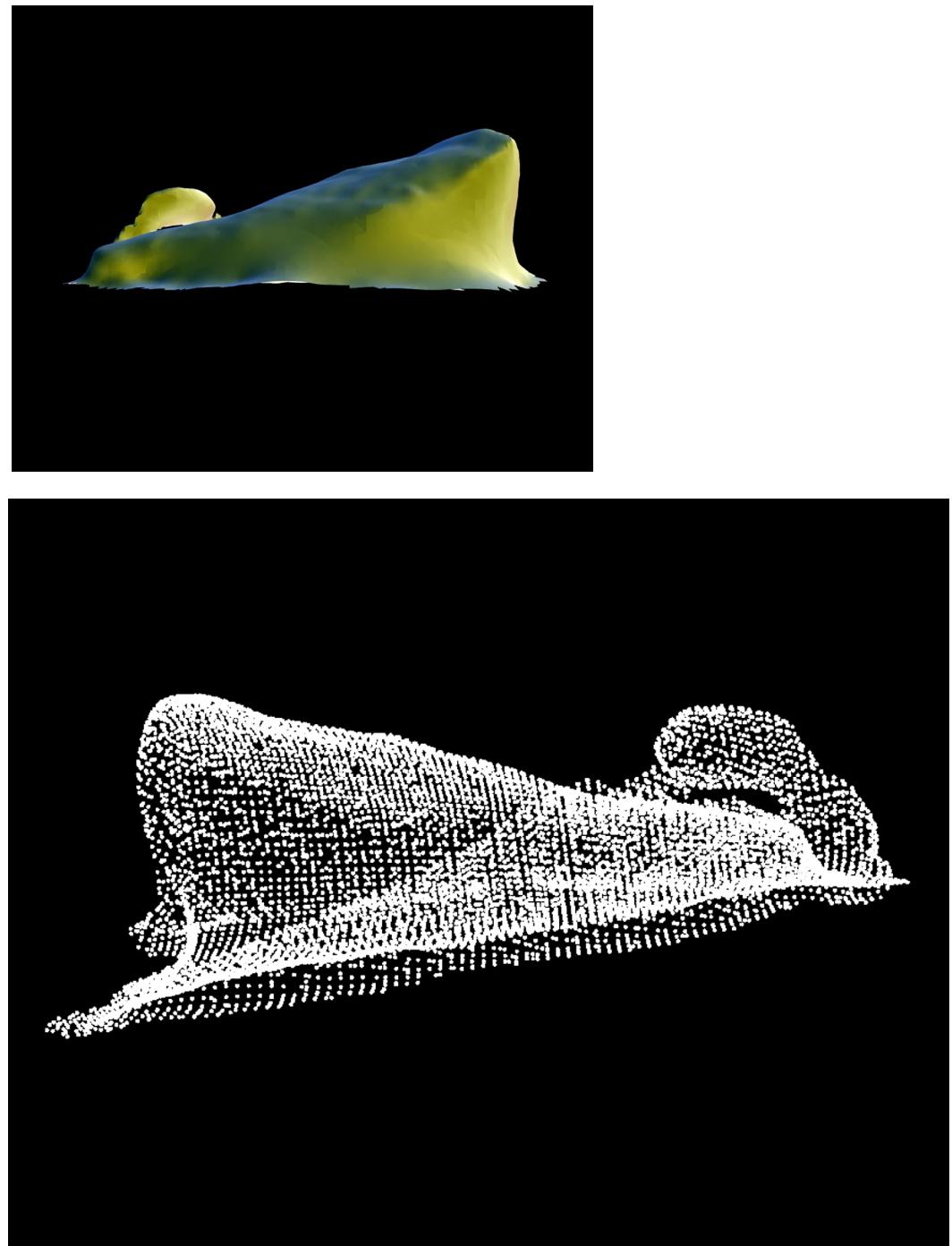
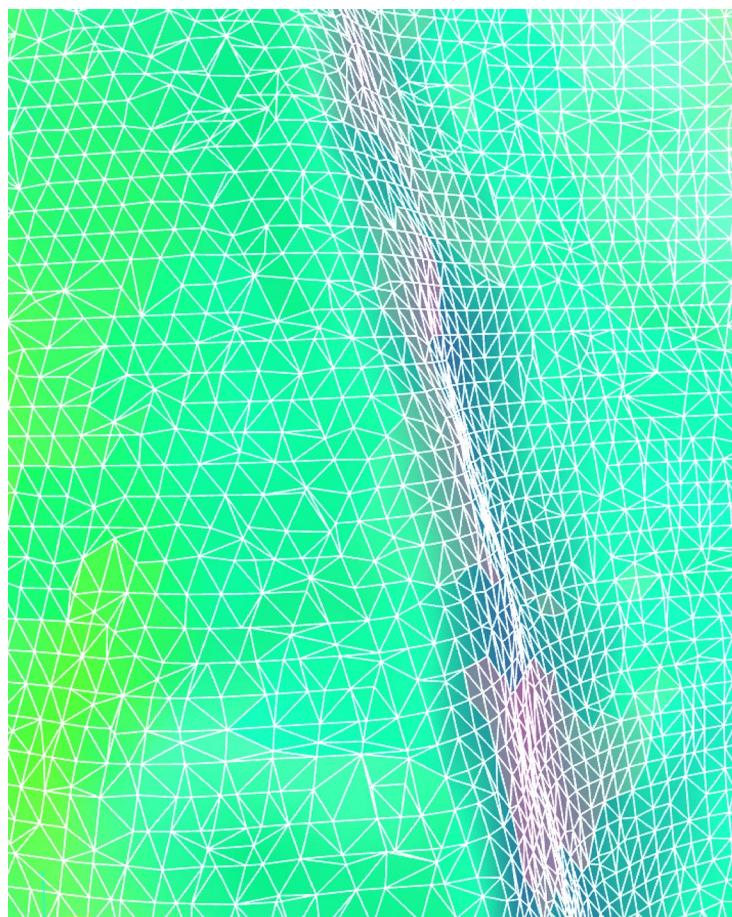
it made even the narrowly defined and rigorously used algebraic symbols of Cartesian or “analytic” geometry (a geometry of algebraic equations derived from the Cartesian coordinate grid) appear arbitrary and unreliable by comparison. Augustus De Morgan, mathematician and educator, remarked that classical geometry was an invaluable “aid of algebra to assist in gaining representations of functions” (“On the Signs” 243) and feared that without this grounding algebra might prove to be nothing more than “symbols bewitched, and running about the world in search of meaning” (Rev. 311). Similarly, George Salmon pointed out that while in analytic geometry one could generate equations that seemed to render distinct spatial figures equivalent, Euclidean spatial representations were reliably unambiguous and could in fact be used to diagnose such misleading equivalences: We know what a circle is before we know anything about the equation $x^2 + y^2 = a^2$, and any interpretation of this equation differing from... our previous geometrical conception, must be rejected. . . . [I]f these curves differ from a circle in form and properties, then it is an abuse of language to speak of them as branches is, in short, no better than a mathematical pun. (302; my emphasis)

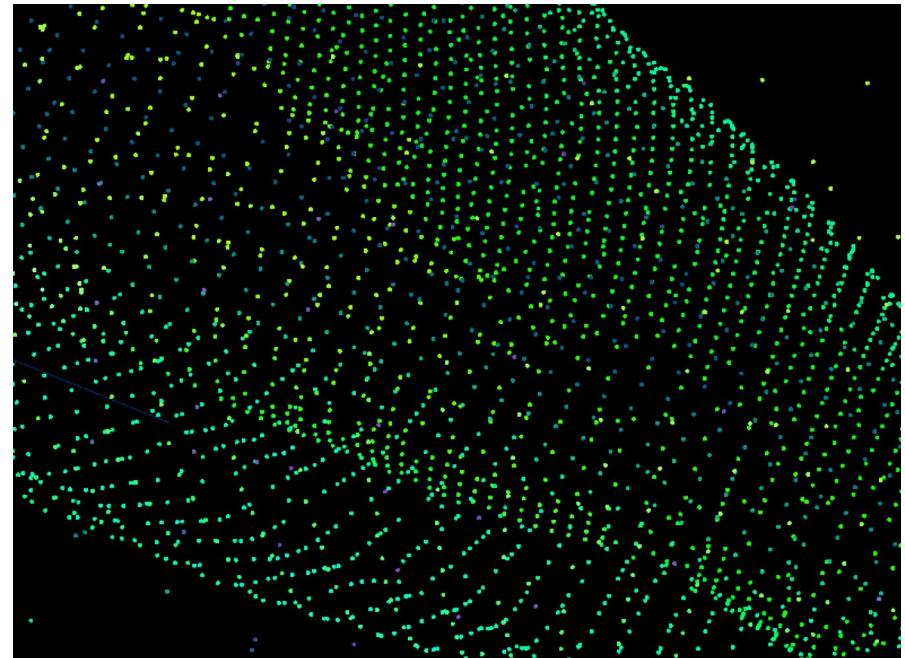
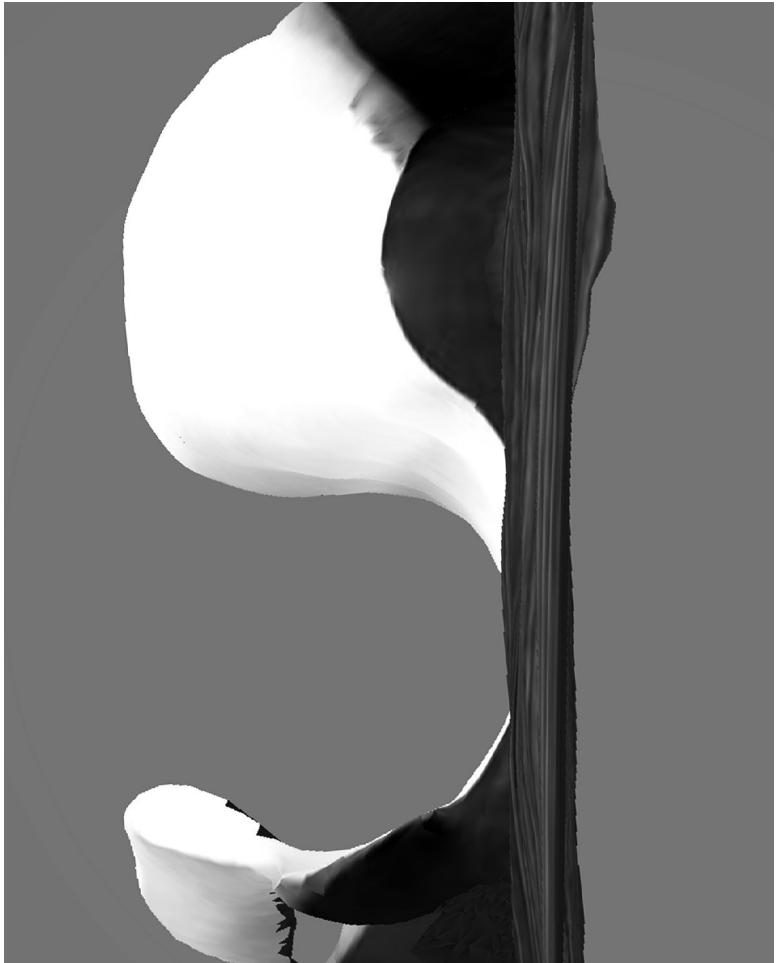
Salmon takes for granted that we know what a circle is, as it were, intuitively; it is self evidently amenable to what he calls a “real interpretation” (302). Algebra, on the other hand, is a nonmimetic symbolic system, one that must constantly be tested against the transparency of classical geometry. The revelation that Euclidean geometry might itself be merely conventional, one symbolic system among others, meant that not only the belief in “exact” knowledge but even the dream of transparent representation had “fallen to pieces.” Victorian mathematicians were, then, deeply invested in theories of representation. Literary critics and art historians have noted, and in some cases studied at length, the influence of late-Victorian mathematical developments on modernist conceptions of space.

But as I will show, the development of non Euclidean geometry had an earlier and more fundamental influence on developments in aesthetics because Euclidean geometry had been understood to be centrally concerned with representation and the mediation of ideal and real. To relinquish faith in the representational powers of classical geometry was to recognize that symbolic systems generally, while they might be characterized by internal coherence, might not be amenable to a “real interpretation.” Edwin Abbott’s *Flatland* (1884), a novel about a society of planar shapes who live and die by the laws of geometry, speaks directly to this crisis. The novel has two parts: in the first part, a first-person narrator, who is literally a square, describes the two-dimensional society of geometric shapes in which he lives.

In the second part, the narrative proper begins, as A Square tells us of his trip to Spaceland and his subsequent failure, on his return home, to convince his fellows of the existence of a third dimension. The book, then, aims to







teach us by example the value of being open to the possibility that there may be more dimensions than we are accustomed to imagining. Although *Flatland* is an outlier in the realist tradition, the novel self-consciously comments on it, allegorizing the danger of too ready a belief in the viability of “realistic” representation. Indeed, I would argue that the features that make *Flatland* hard to assimilate to the canonical novel tradition, its flouting of the protocols of realist characterization and plotting, are the same features that make it uniquely useful to the critic seeking to understand late-nineteenth century theories of representation. Much modern criticism of the novel has understood Abbott's anxiety regarding the limits of knowledge in terms of the Victorian crisis in religious belief.¹¹ I will argue, however, that in *Flatland* Abbott locates in geometry not only the origin of but also the solution to the problem of uncertain knowledge. For modern geometry was, as we shall see, concerned with aesthetics, and, in terms that bring to mind the formalist investments of the avant-garde painting of his day, Abbott suggests that aesthetic pleasure, particularly the perception of form and color, is sufficiently valuable to compensate for the failure of signs to provide absolute truth. In this book, his one novel, Abbott the pious schoolmaster closes ranks with such unlikely contemporaries as James McNeill Whistler and Walter Pater. Recognizing Abbott's commitment to the strictly formal properties of signs helps us

not only to understand better the place of this eccentric book in its culture but also to see just how far-reaching and unpredictable the effects of developments in mathematics were. [] In book 6 of the 1805 Prelude, William Wordsworth describes the consolations of Euclidean geometry for thinkers of the early nineteenth century who were concerned with the status and nature of representation:

With Indian awe and wonder.... . . . did I meditate Upon the alliance of those simple, pure Proportions and relations, with the frame And laws of Nature?. (142-47)

This rehearsal of the notion that geometry allies the ideal with the real is followed by an even grander claim, that geometry is a conduit for “deeper,” ultimately divine truths: An image not unworthy of the one Surpassing life, which?out of space and time, Nor touched by welterings of passion?is, And hath the name of, God. (154-57) Famously, Coleridge?drawing on German philosophy?gave this link to divine truth through human representations a name: symbolism. The Coleridgean symbol, like the Bible, is simultaneously literal and metaphoric; it “is characterized by a translucence of the special in the individual or of the general in the especial or of the universal in the general. It always partakes of the reality which it renders intelligible; and while it enunciates the whole, abides itself as a living part in that unity of which it is the representative” (Lay Sermons 30).

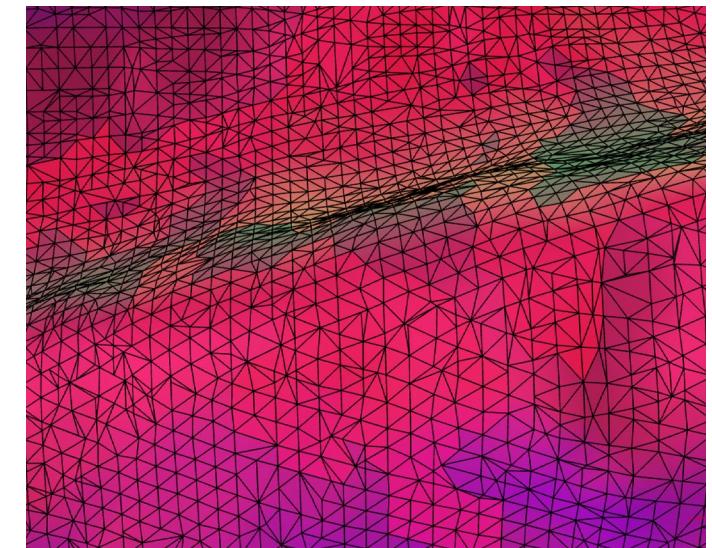
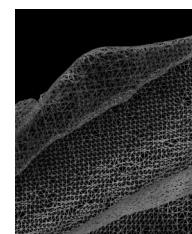
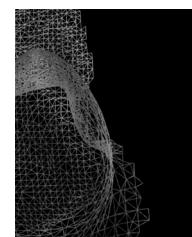
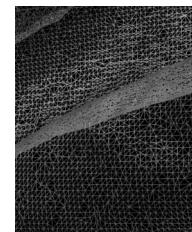
That is, the symbol has the virtue Coleridge’s contemporaries assigned to geometric representation: it seamlessly yokes ideal and real. If the presumption of a divine order underwrote the viability of symbolic representation, the faith in Euclidean geometry provided its secular, scientific counterpart. As the Victorian mathematician James Sylvester remarked, many of his contemporaries ranked Euclid’s Elements as “second in sacredness to the Bible alone” (262). That the nature and even the existence of the divine moral order became subject to tremendous uncertainty over the course of the nineteenth century is one of the truisms of Victorian studies.

In Matthew Arnold’s famous formulation, the “Sea of Faith” was, in his age, retreating with a “withdrawing roar” (lines 21, 25). Most historians attribute this retreat to the advent of Darwinian evolutionary theory, although concerns regarding the legibility of God’s creation and the reliability of representation extended well beyond the domain of natural history. Catherine Gallagher links the self-consciousness of the great realist novels to the “liberal break with descriptive [proportional] representation” in the more conservative political climate of the 1860s (233). Similarly, Isobel Armstrong argues that, given Thomas Carlyle’s “old analogy between language and money as forms of substitution,” the financial crisis of 1866 contributed to making “[language] the site of renewed ideological conflict” (385, 384). As its own

transparency came to be questioned, geometry could no longer shore up an already fading faith in other representational systems. In Metaphysics; or, The Philosophy of Consciousness (1860), H. L. Mansel turns to geometry to show that it fails to ground language, which is like algebra and thus has no essential significance:

A round square or a bilinear figure, is, as a form of speech, quite as possible as a straight line or an equilateral triangle.... Language, like algebra, furnishes a system of signs, which we are able to employ in various relations without at the moment being conscious of the original signification being assigned to each. . . . Like the bank-note, it is the representative of value without having an intrinsic value of its own.... (188-90)

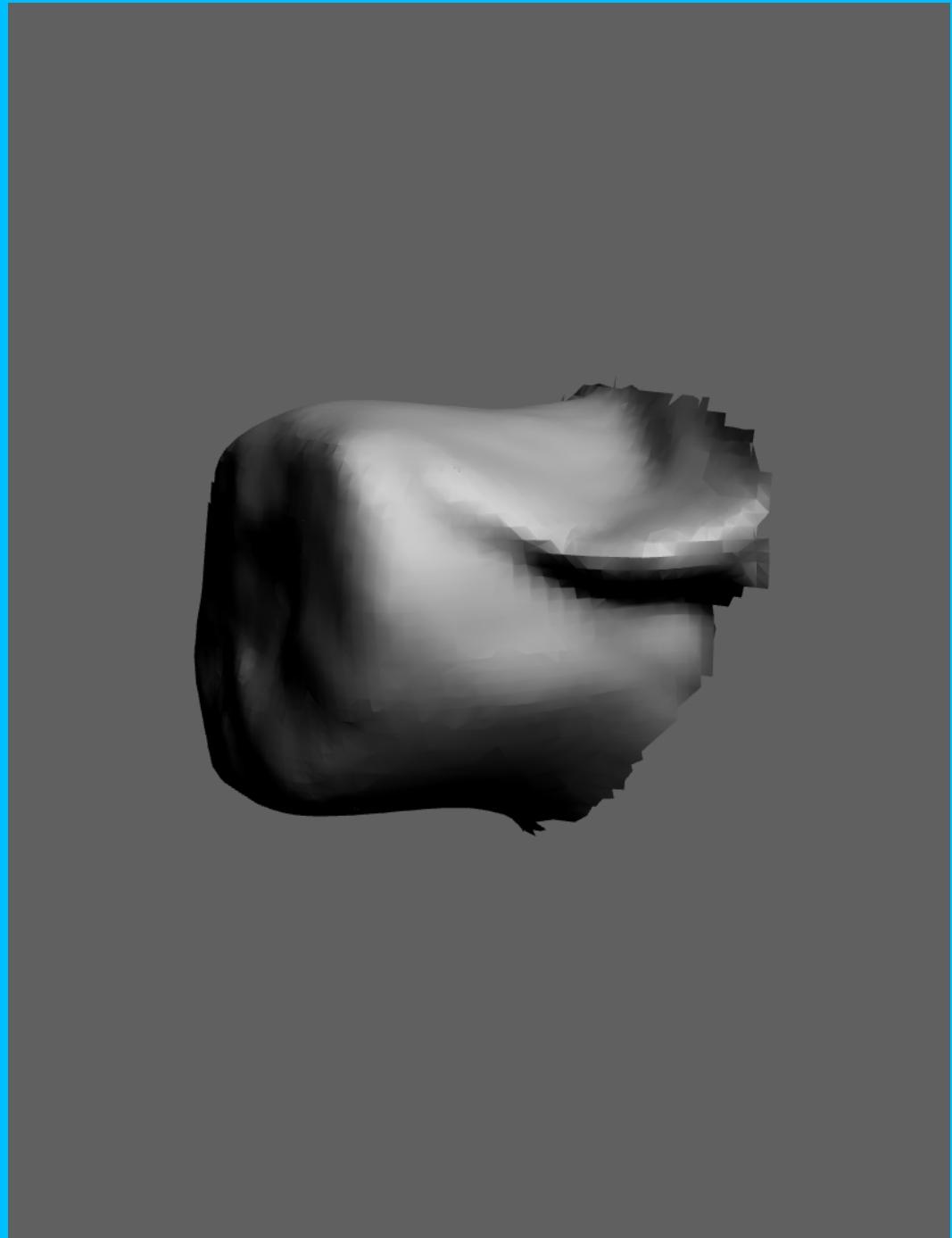
The challenge to Euclidean geometry, which was to change its status forever, came in two forms and had its origin in the long perceived difficulties with Euclid’s final, or parallel, postulate.² The parallel postulate did not seem as obvious or intuitive as the others and prompted numerous efforts by later mathematicians to reconceive it as a provable theorem, but to no avail. In the early nineteenth century, several mathematicians, working largely independently, gave up on the project of proving the postulate and decided instead to rethink the foundations of geometry with out it?

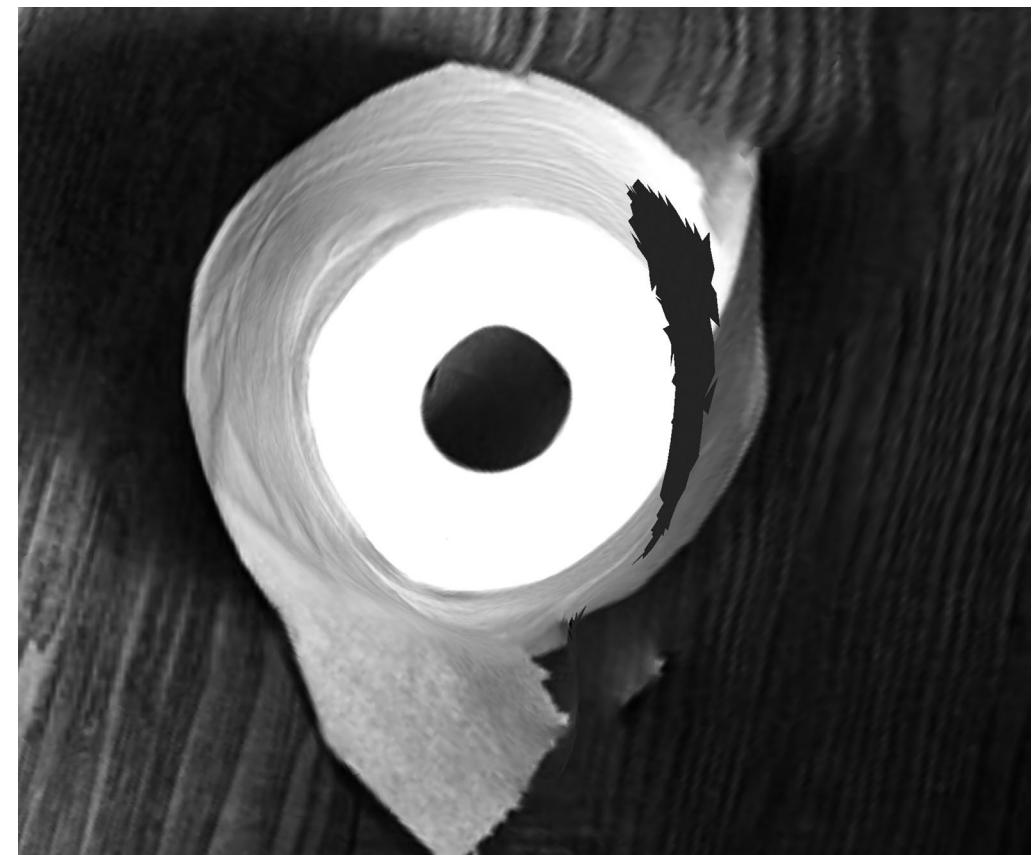
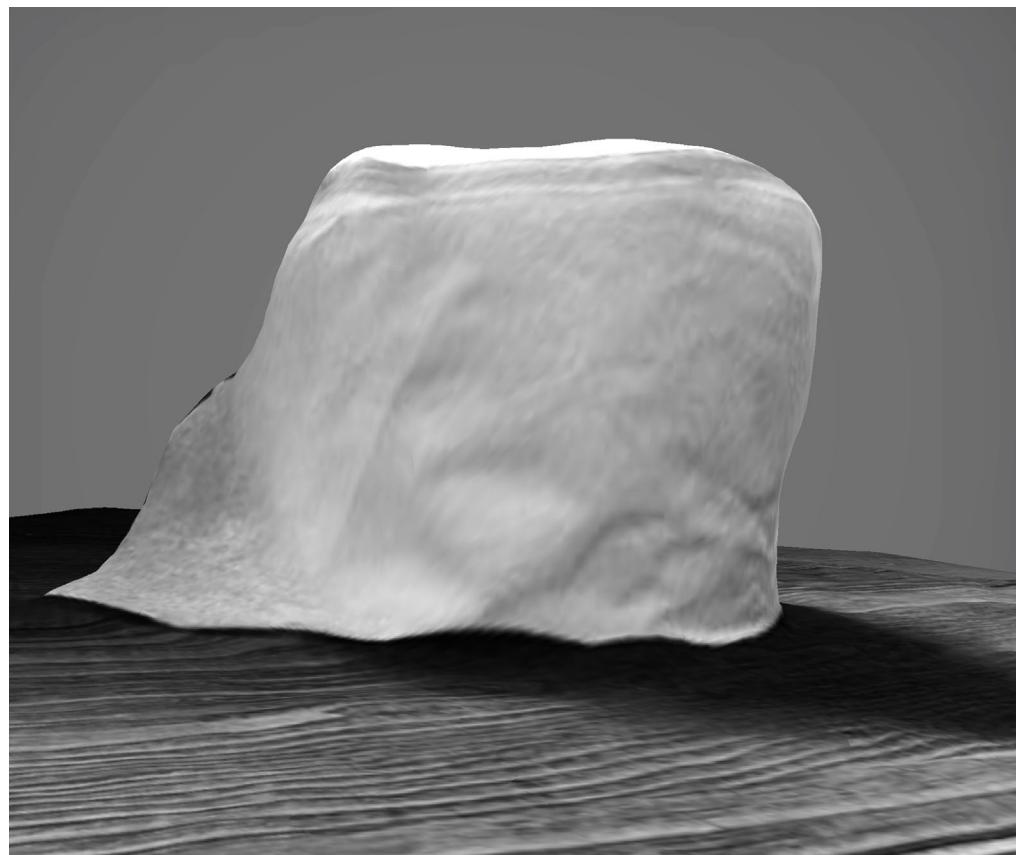


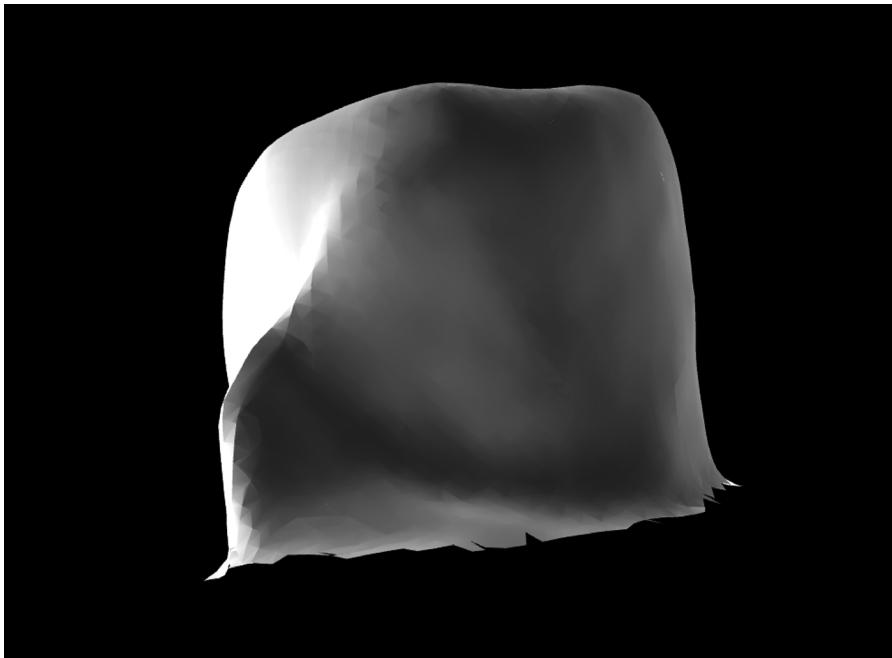
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TUBE ← → TOILET PAPER

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Polygon Sections	1 section
Image Size	3.2mb







*My Role Model is a Roll of
Toilet Paper: Writing with
Passion and the Limits of
Machines*

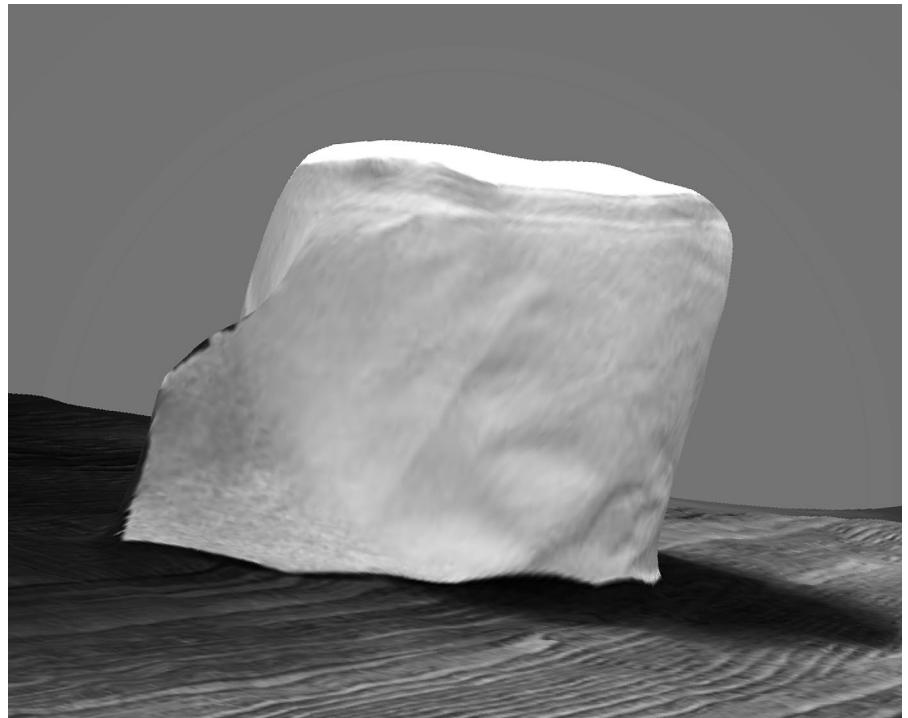
by Nancy McCabe

When my daughter was in sixth grade, she was assigned an essay proposing a new holiday honoring an underrecognized historical figure. She thought and thought about this, considering favorite writers, political figures, ordinary people. Finally, she wrote about not one person but a group, the Little Rock Nine, the African-American students who endured much when they helped integrate Little Rock's Central High School in 1957. My Asian-American daughter, one of very few non-white students in her middle-school, deeply admired these teenagers, and her subsequent essay was a passionate, thoughtful one about their legacy.

Days later, I asked her how she'd done on her essay.

"I got a 4," she said.

It turned out that her essay had not been read by a teacher, but instead had been graded by a computer program that gave each paper a score between 1 and 5. Her essay may have been imperfect, but it saddened me that a message that deeply mattered to her, a message that a mostly white community would have benefitted from hearing, had been reduced to a score on a computer. A



year later, she brought home another essay assignment: to write about her role model. She wrote a lovely piece about her mom. Of course I could assess this essay with total objectivity. There might have been some clumsy sentences here and there, but its sentiments clearly made it worthy of an A+. Once again, she made a 4. Once again, the essay had been put through a computer program rather than read by a live person.

She wanted a 5. She revised obsessively, making improvements and putting it through the program repeatedly. It got a 4 every time. A computer, I tried to convince her, cannot evaluate your passion for your subject, the quality of your ideas, the incisiveness of your language, the sophistication of your thought, the merit of your metaphors. It can measure whether you have an introduction, a thesis statement, a structure that echoes the thesis statement, transitions, examples, and complex sentences that are basically grammatically correct. She didn't believe me. So I set out to prove it to her, writing the following essay: When in the course of human events, it becomes necessary for one role model to assume, among the powers of the earth, a separate and equal station, that role model can change our life. The person who most exemplifies these qualities in my mind is the roll of toilet paper in my bathroom. Not only is she a friendly and delightful person who makes every day special, she is, most of all, as incandescent as a candle that daily lights the darkness.

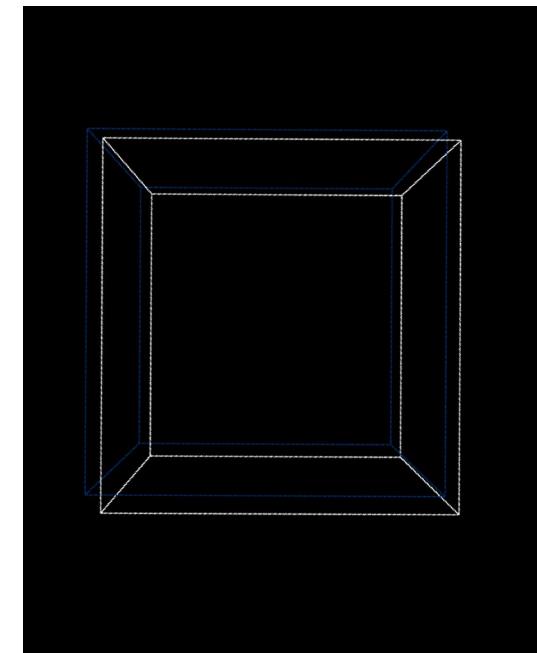
From the moment I met her, her friendliness was evident. She introduced herself in such a way that I was certain that she was the most exuberant apple pie I'd ever met. When she danced, her secondary sunburn drew laughter and happiness from every far-flung artichoke. She was especially warm and welcoming when she quoted the cat, saying regularly, "Be it ever so humble, there's no place like the cemetery." I was especially impressed by the friendly way she executed every small bug that crossed her path, fashioning small skirts and tennis shoes for the cutest among them.

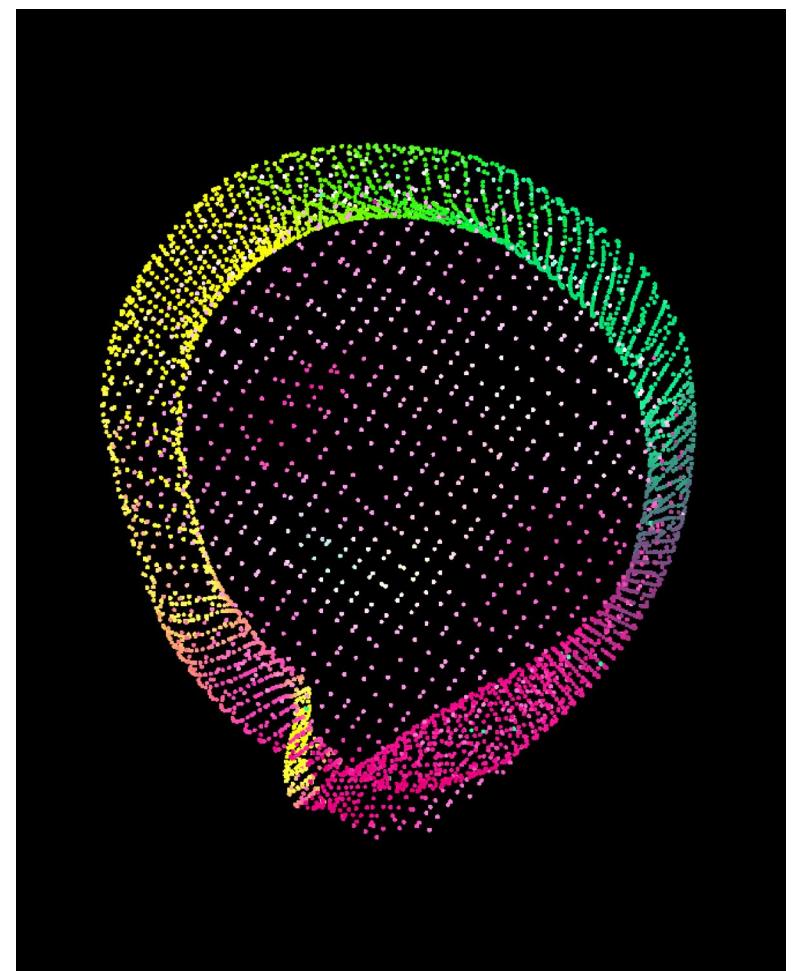
But that alone is not enough to make her my role model: it is her delightful scent that makes her so intriguing and exceptional. I take endless pleasure in the loops and whorls of her fingerprints, and sometimes, the hottest bath can cause a streetlight to topple, crashing to the ground, bringing me a delight unlike no other. Her insistence on good manners, on the boundless, crashing energy of the sea, on singing and rappelling from every mountain and lowering herself from the greatest heights to re-create the majesty of the purple mountains, is what impresses her peers daily. Her delightfulness is exemplified by all of these, and I could elaborate on this for the next eighty bra straps.

Most of all, my toilet paper is as incandescent as a candle. Her flaring green elephants, her crisp potato chips that come in a can rather than a bag, and her tall, effortless demeanor and drug habit shine through the darkness like a candle or a very powerful lamp that has never been muted. For example, one day I had forgotten to pack my lunch and discovered that there were no

mousetraps left in the cupboard. She rushed to the rescue, prompting me to re-evaluate my entire life and refine my philosophies until the dog barked at the door, wishing to be let in. Another instance of this is the day I raced to catch the moon but found it under the hood of my car. Her shining light beckoned to me repeatedly, and I realized that this made her a special role model indeed.

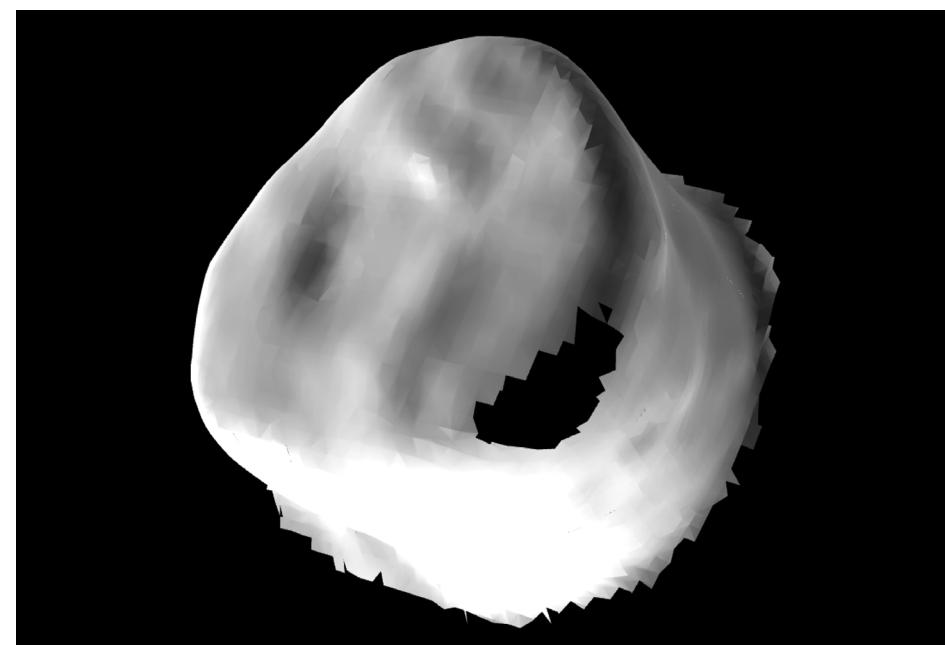
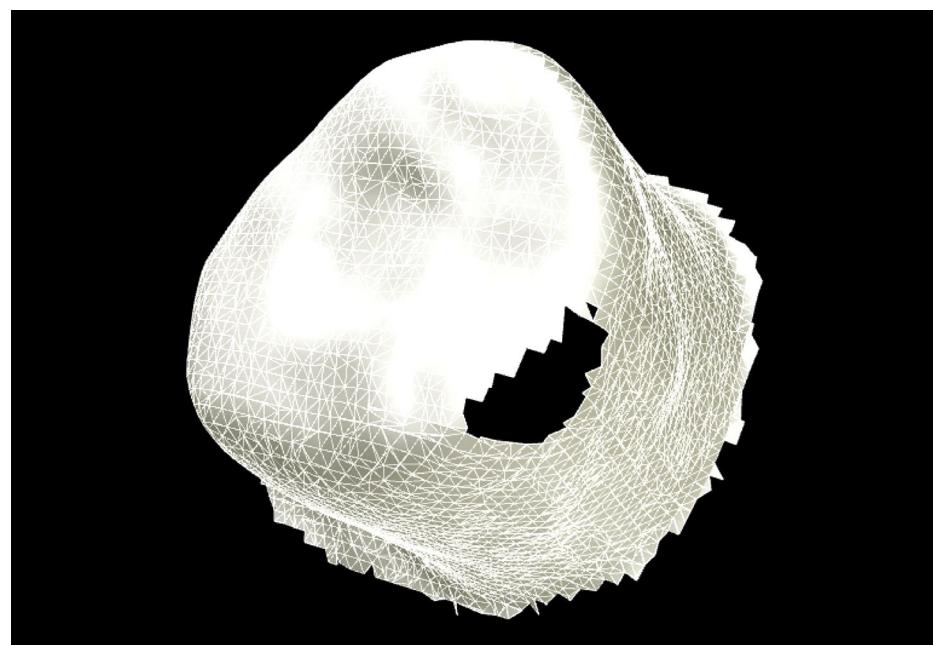
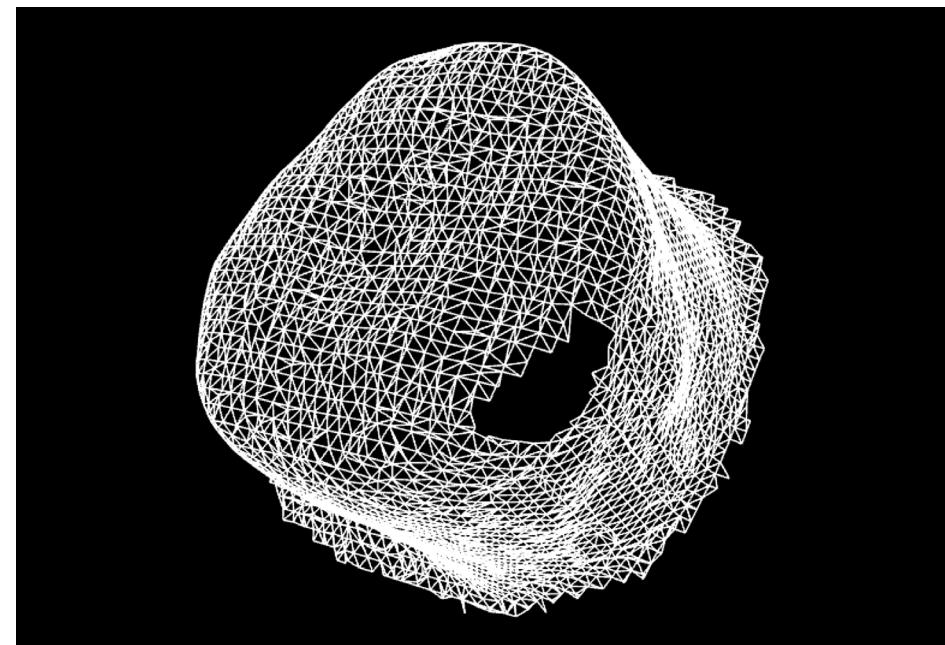
It should be clear from all of these examples why my role model makes every day so initially towel-like and luminous as an egg. She is the wind beneath my ice cream cone as she shows me that being friendly, delightful, and incandescent are the keys to every cloud's silver lining and every small raccoon's badger feet. She reverberates with unsaid encyclopedias, struggles vociferously in all she does, and keeps me entertained by creating squeaky rubber toys that children and dogs can throw in their fish tanks. I am proud to be a part of her satellite, and am often motivated by her example to be friendly myself, to be delightful, and to shine as incandescently as the most riveting, most enervating candle. I made a 5.

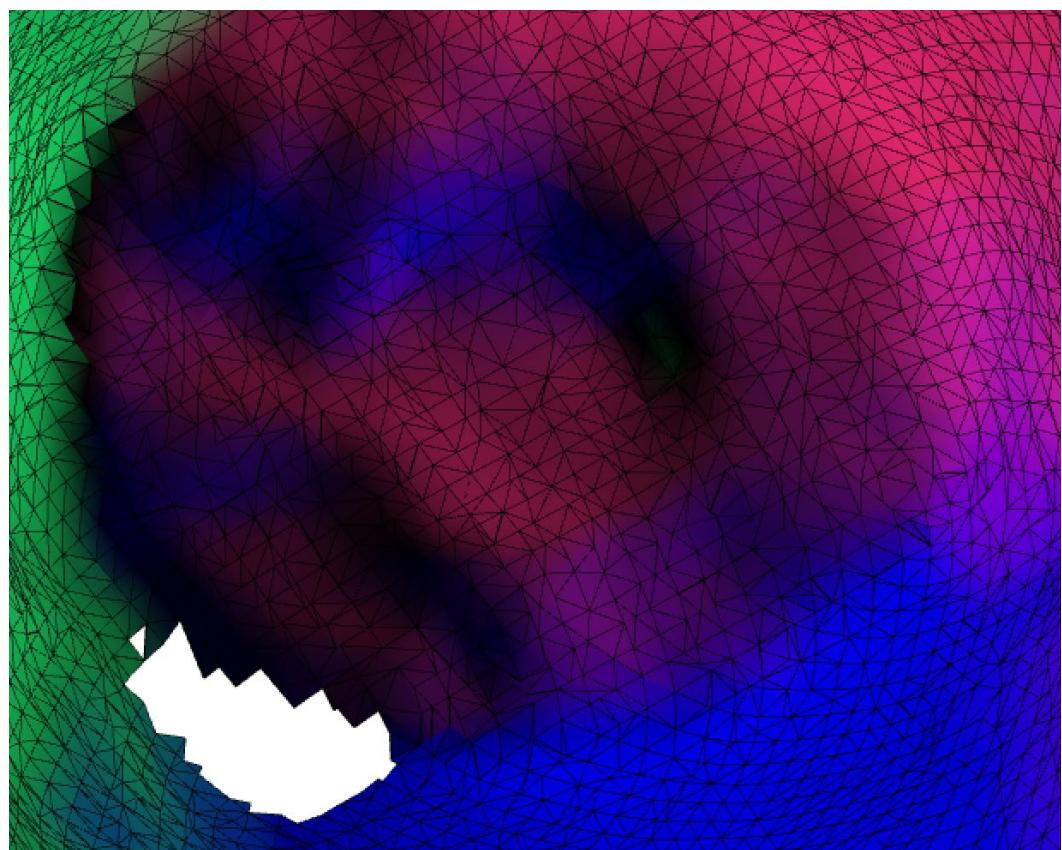




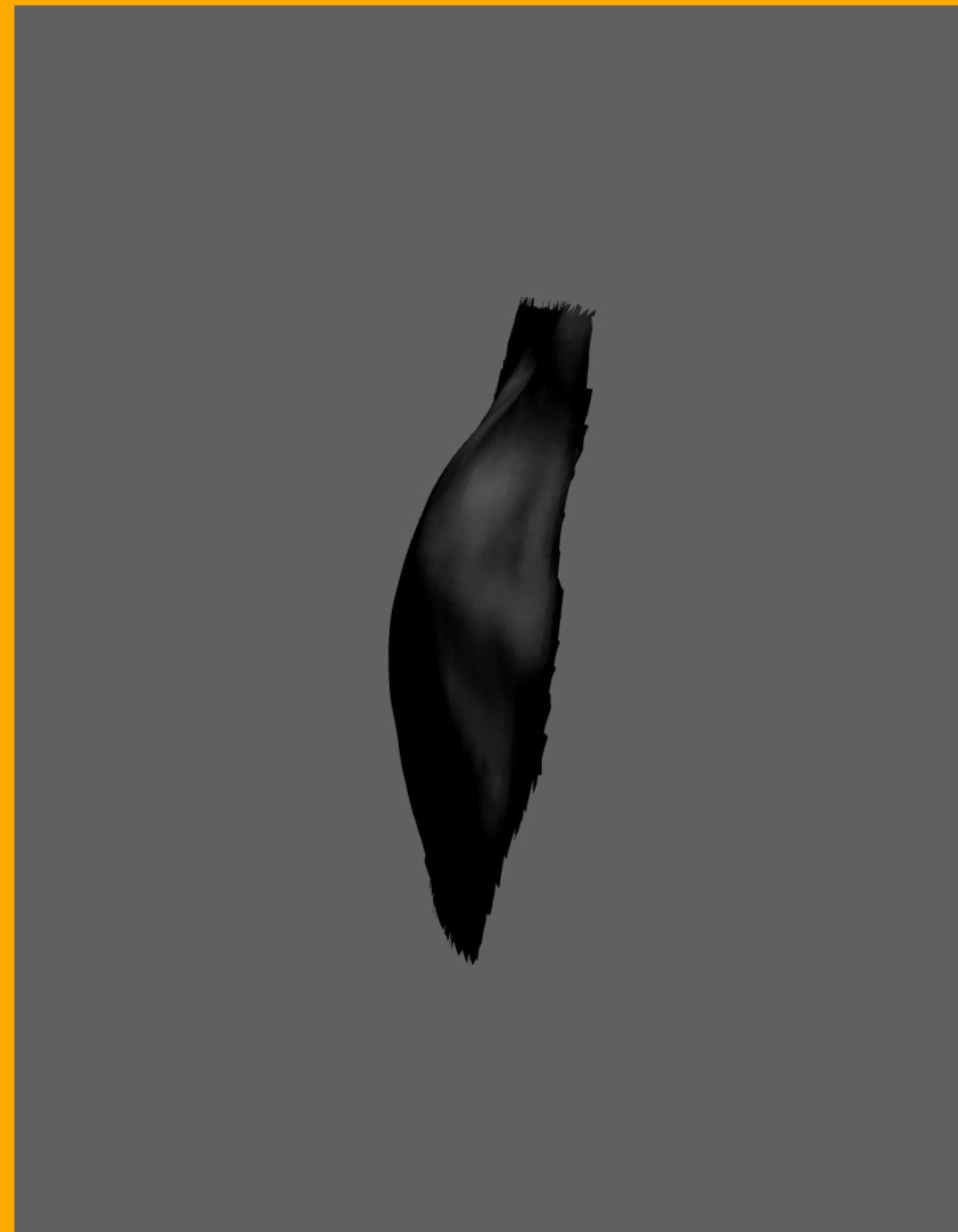
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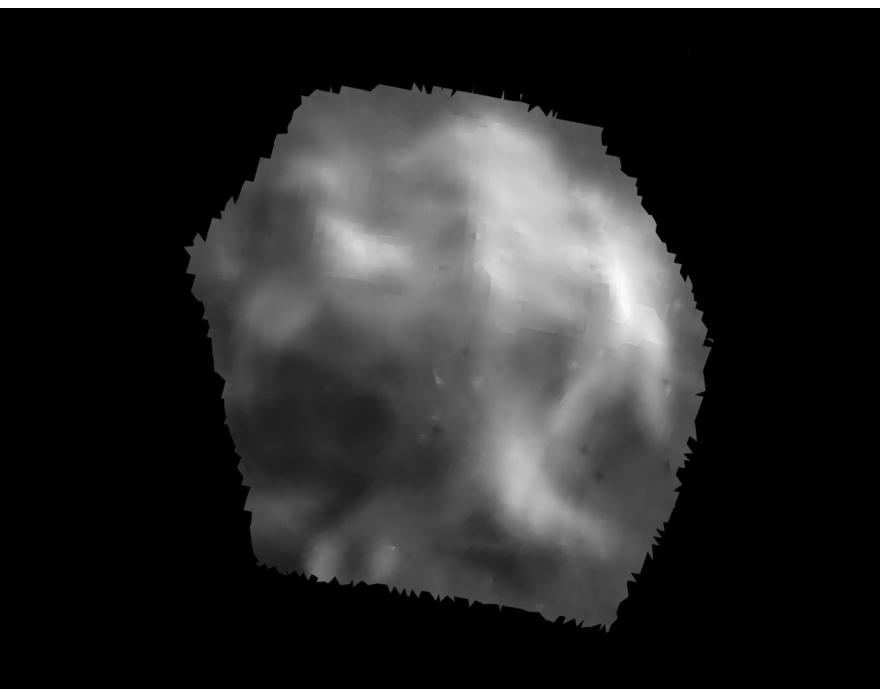
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Polygon Sections	4 sections
Image Size	3.2mb





Bytes and Zeitgeist: Digitizing the Cultural Landscape

Author(s): Steve Tomasula

Source: *Leonardo*, Vol. 31, No. 5, Sixth Annual New York Digital Salon (1998), pp. 337-344

Published by: The MIT Press Stable

URL: <http://www.jstor.org/stable/1576592>

Accessed: 19-02-2017 20:25 UTC

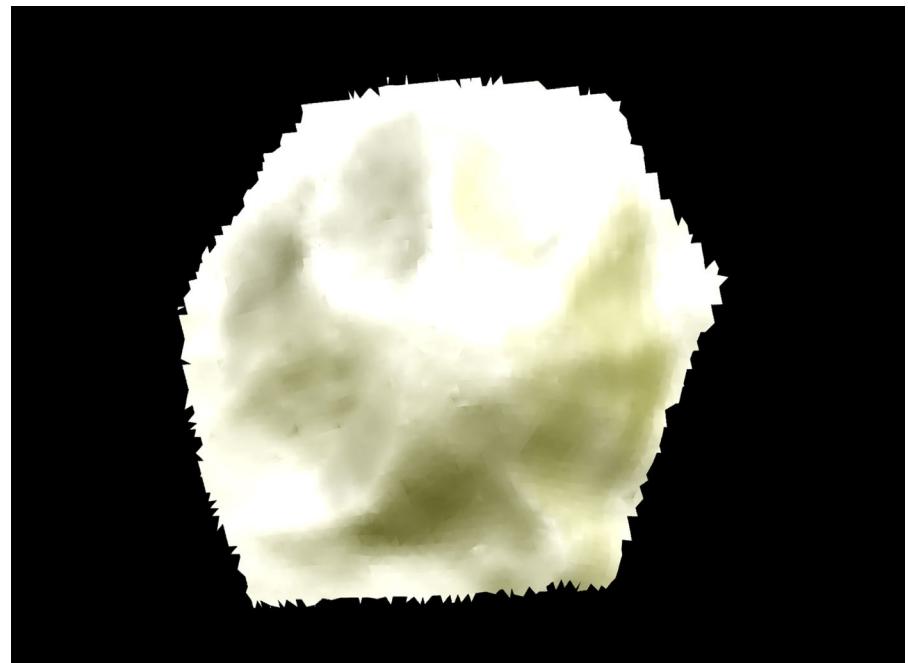
The Chain. In *Mervelous Signals*, Eugene Vance writes that “there is scarcely a term, practice, or concept in contemporary theory that does not have some rich antecedent in medieval thought” [13]. Our contentious reading practices began life, of course, as hermeneutics, i.e., close reading of the Bible: that process of teasing out topologies, or points of linkage, between the Old and New Testaments—the trace of God’s thought. Similarly, the rhetoric of medieval visual art is a rhetoric of the ‘Word cast as icon—an invitation to ponder, what is left unsaid by the symbol.

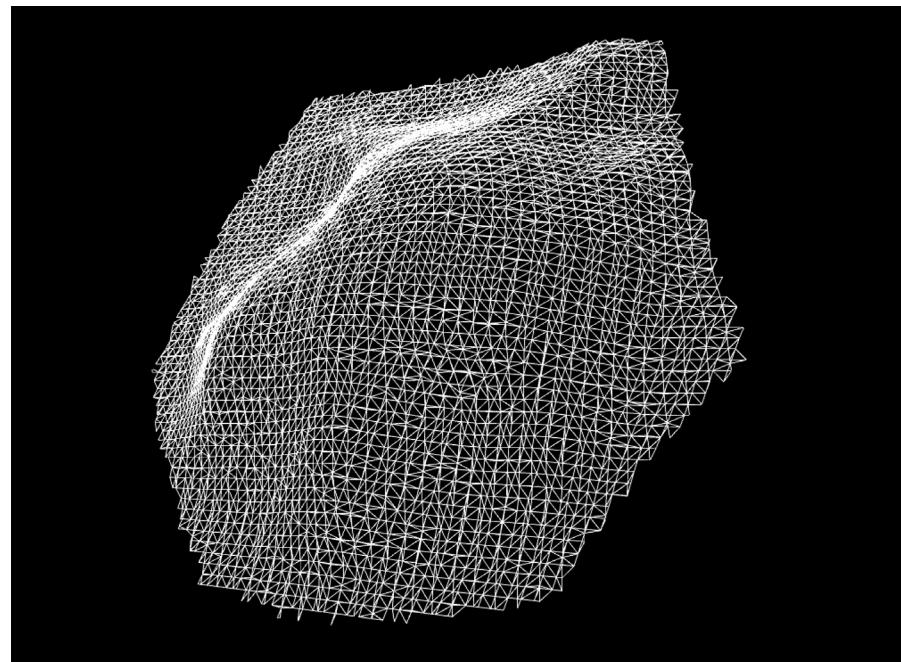
Together they make it easy to repeat the truism that .. medievals, like us, thought in symbols. 11| And like us, medieval readers would have no or the nonverbal signs .I ^ . tain airports. For them, as us, iconography was to put into words. nposing the Specifically, for them Scientists, like this was the fact that ‘. Scientiasts, like this was the fact that re technologies of Christ was the Word rchives of the Incarnate, and words were part of a Great Chain of Being, each being forming a link in a chain emanating from the mind of God, the extent of which could only be intimated. It was natural, then, for Dante to organize his encyclopedic poem, his grand tour through the hierarchy of creation from God to Satan in catena: a rhyme cheme that chained one line to the next:

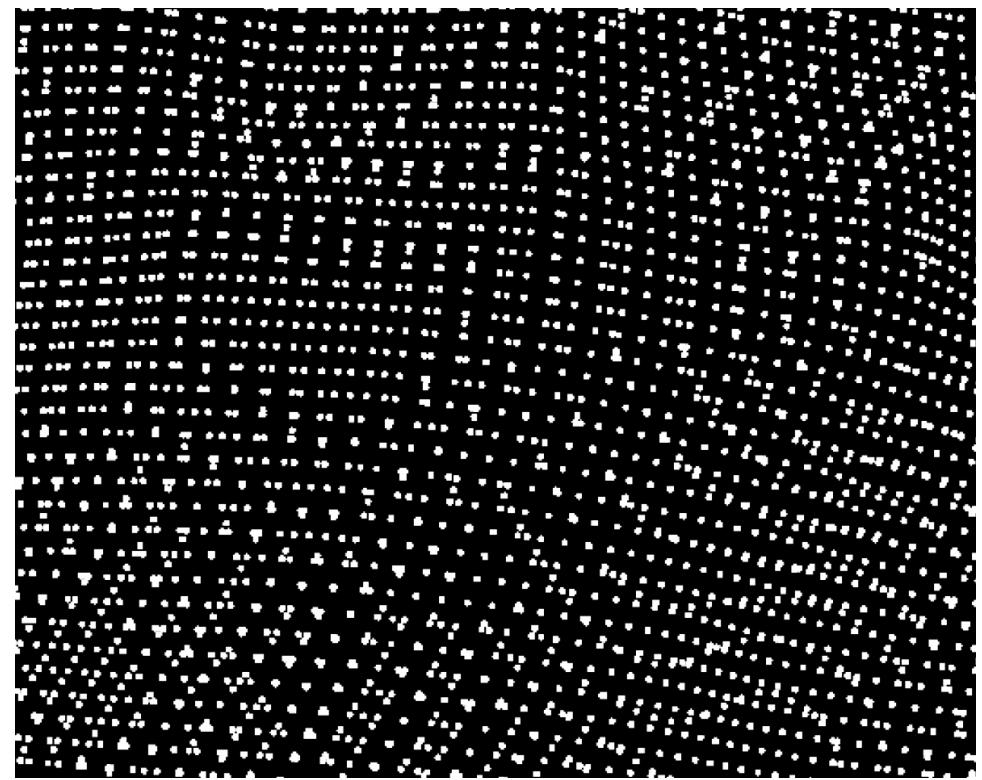
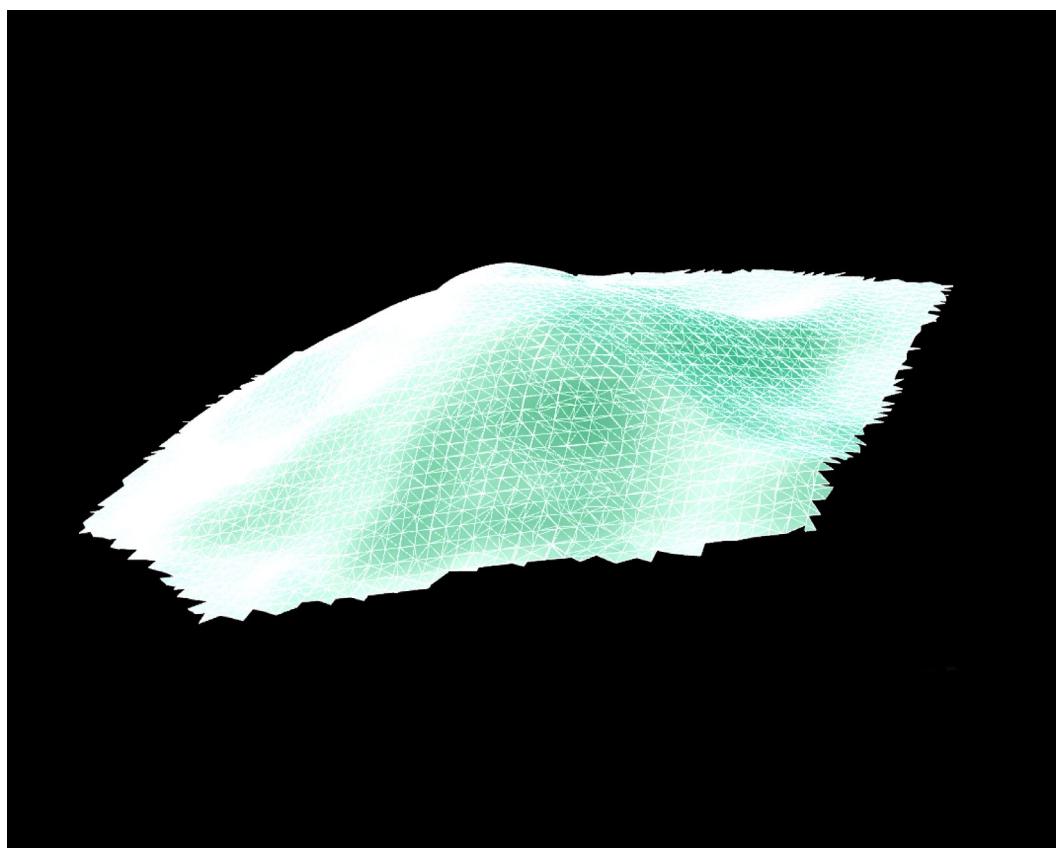
*Nel mezzo del cammin di nostra vita [A]
mi ritrovai per una selva oscura [B]
che la diritta via era smarrita. [A]
Ah quanto a dir qual era e coas dura [B]
esta selva selvaggia e aspra e forte [C]
che nel pensier rinova la paura! [B]
Tant' e amara che poco b piu morte; [C]
ma per trattar del ben ch'io vi trovai, [D]
dirb dell'altre cose ch'i' v'ho scorte. [C]
lo non so ben ridir com' io v'entrai, [D]
tant'era pieno di sonno a quel punto [E] [14]*

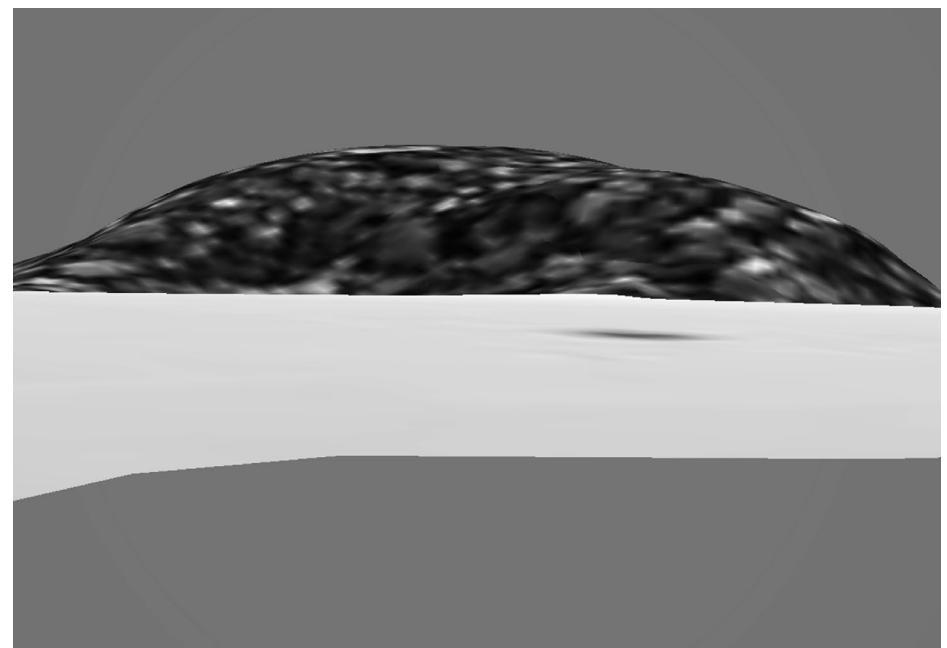
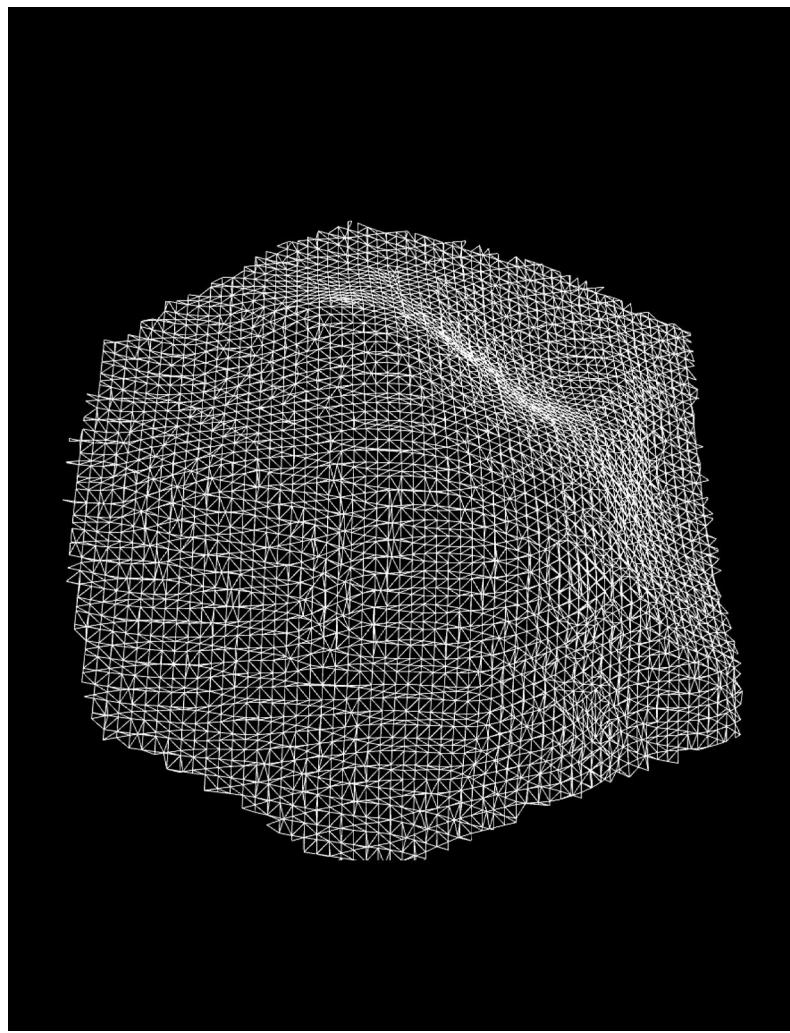
It was natural for them to think of knowledge as the quest to discover how the multitudinous details of creation fit into this infinite chain. Then something happened. 2. The Link (or Divide and Conquer). I may never know God’s mind completely. But I can know completely the number of muscles in a frog’s leg [15]. And once that is learned, I can begin to know completely the muscles in its neck. And through this calculus, I can know a frog. And then a toad. And once enough people adopt this manner of thinking, understanding becomes a problem of man hours, not theology.

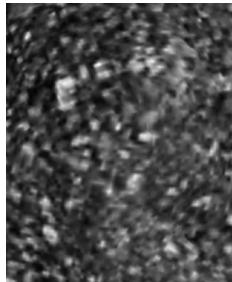
Majestic collections of beetles and seaweed were assembled, all ordered in a taxonomy not to reveal their similarities but their differences—for there’s a new teleology in town, positive knowledge, fueled by a scientific











2. The Link (or Divide and Conquer). I may never know God's mind completely. But I can know completely the number of muscles in a frog's leg [15]. And once that is learned, I can begin to know completely the muscles in its neck. And through this calculus, I can know a frog. And then a toad. And once enough people adopt this manner of thinking, understanding becomes a problem of man hours, not theology. Majestic collections of beetles and seaweed were assembled, all ordered in a taxonomy not to reveal their similarities but their differences—for there's a new teleology in town, positive knowledge, fueled by a scientific order that for all practical purposes becomes the end. Seurat's Sunday Afternoon on Grande Jatte Island [16] can be seen as an icon of this change—a painting of individual dots that is partially about the way these dots are combined in the mind to produce color. This is the first modern painting, according to William Everdell in his *The First Moderns*, for the epistemology of discontinuity inherent in its style [17].

What is looked for is what is found, and what we find when we look at the moderns is that as inquiry shifts from cataloguing differences to linking differences by cause and effect, God's mind recedes. Language, once the trace of God's hand, fades to neutrality. And obviously, it's a short hop to the specialized sciences as we know them, as well as genres—history, for example—as distinct from literature and the division of arts from letters. And text from world, as exemplified by structuralist reading, which makes the text a world unto itself.

3. The Hotlink. With the number of observers increasing (imagine!) the role of observation itself was bound to push into consciousness. Kant is often called the watershed between earth and worlds; for Foucault and others, Velazquez's *Las Meninas* is an icon of this shift: a painting with nowhere for the eye to rest for it becomes caught up in a cycle of gazes that includes the gaze of the viewer [18]. This painting clashes with more traditional still lifes: third-person articulations that assume a tree will make thunderous crashes in the forest whether or not anyone is there to hear it fall. From about this time on, words were increasingly seen to come out of other words, not Truth, until we've reached the point where we turn them this way and that to wring from them all that is being said either consciously or unconsciously, even against intent.

That is, the epistemology we live with isn't directed at revealing God's hand, nor cause and effect, but at reconstructing that which is hidden, that which took place beyond the words, or between the lines. The anthropologist's Other. Or shall I call it the Unconscious? By doing so, Dr. Freud, comes rushing in and for good reason. Freud's most pervasive achievement seems to be that he taught the 20th century how to read—a method of literary criticism performed on a living text. In fact, Freud's importance as a literary figure becomes more apparent as his importance as a scientist fades; the Freudian hypothesis that the unconscious is where the action is became the great modern myth, an order-giving narrative. Compare this to the *Iliad*, for example, where all desire is depicted on the surface, grammatically articulated, even if the speaker has a spear through throat. Today,

we see Freudianism less as a science than as a discursive practice left naked before Lacan by the lapses of a poet who thought he was practicing biology. Likewise, Marx marches into paradox rather than a rising sun of truth, and many writers and artists and critics have concluded that representation can in fact be of nothing in the way that E.H. Gombrich's child on a hobby horse re-presents riding without representing riding [19].

It's easy to see what this type of thinking will do to traditional boundaries that even a modernist like Freud would have been comfortable with: man/machine, history/fiction, private/public, high art/popular entertainment, male/female, truth/image, original/copy, mind/body, text/image—there is no such thing as an insular image. There is no such thing as an isolated text. Once again, one is catenaed to others with the result that, as for medievals, representation is suspect for it is partial. And like medievals, we give form to a semiotics that matches our mindset: one that is easily linked, disseminated at the speed of light, re-arrangeable by users, icon-driven, interactive.

- 01 MAYAN PYRAMIDS *that are at once altar, shelter, calendar, astronomical instrument, and encyclopedia.*
- 02 THE RIFLE MAN OF MIAMI—*the first pocket book printed on cheap paper and designed for mass consumption.*
- 03 ORIGEN'S HEXAPLA, *a 7,000-page Bible that gave six versions side by side, spread open on an altar for all to worship.*
- 04 CAVE PAINT *in the darkest, least accessible part of a cave.*
- 05 HYPERTEXTS *of photon letters held in magnetic memory...*

Shifts in technology have always precipitated changes in epistemology and its various cultural manifestations. But what is sometimes overlooked is the way this is reflected in the mediums themselves. That is, culture too, has a material history which, to follow one of its many plot lines, is to read a story of reproducibility and portability. Consider its endpoint the cave painting, a one-of-a-kind, permanently bound to the most inaccessible parts of the earth. A secret. Probably used for sacramental purposes akin to the sculptures of saints placed on roofs and visible only to God. Contrast this to the online book on the Notre Dame Cathedral of Amiens [20], which allows readers to study original architectural drawings and view video clips or correspondence on the construction of the church—in either the original French or in English translation.

And remember, this can be done from anywhere in the world by any one of the 1.6 billion people now estimated to be online. Something any academic press with runs of 1,000 should ponder. Now consider the history between

these endpoints and how intertwined engineering is with ways of seeing: one manuscript of the Pentateuch was written on 57 skins sewn together to form a piece 36 meters long and was read by rolling from one scroll to another—a serial retrieval system which we emulate every time we click on the scrollbar in a word processor.

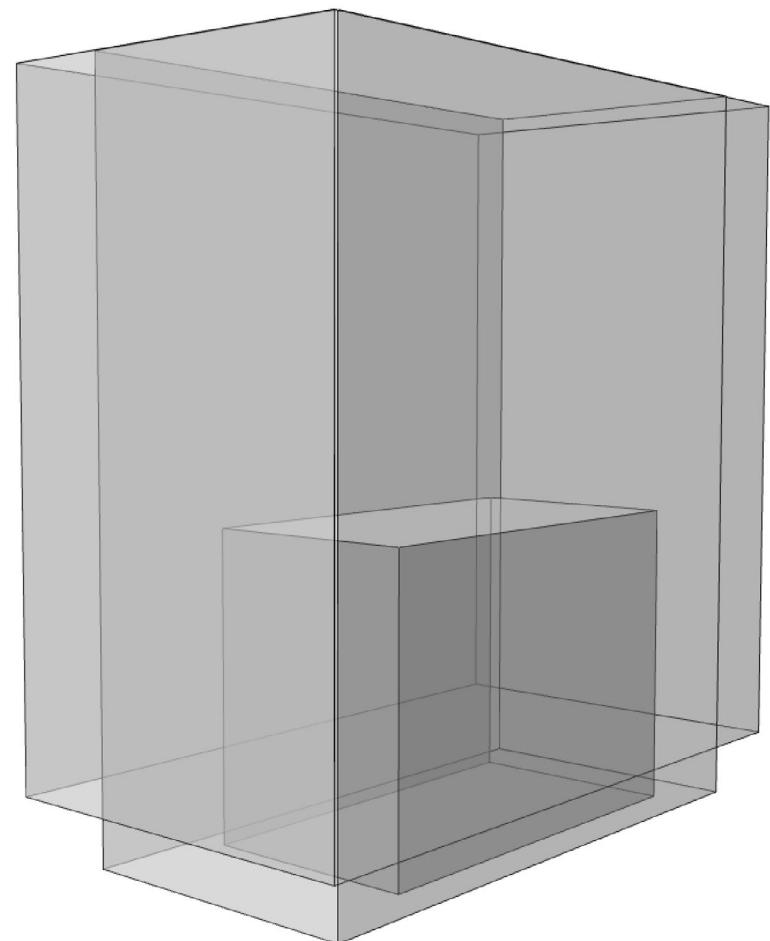
Then came the codex, the book in the shape of a box (which the Romans invented for ease of use in the field). With the parallel retrieval system of the codex, it's as easy to flip to page 200 and back as it is to use a hotlink; it is easy to begin to think hypertextually. Is it just a coincidence that the codex had become the most common form of book by the time Augustine abandoned the Aristotelian notion of time as arrow in flight for a conception of time as the “always ever present”?—the present containing the past as surely as it holds the future?

One hundred and fifty years ago it was impossible to take a course in the novel. Novels were softheaded, not suitable for serious study. Fifty years ago you couldn't take a course in film. Movies, as they were called, were softheaded, not suitable for serious study. Ten years ago you couldn't study the comic book. Last year you couldn't major in videogames. But today you can. DigiPen, an accredited college with campuses in Vancouver and Washington state, recently began offering a four-year degree in creating videogames. Some 10,000 applicants competed for the

first 100 slots. The push of how we think—especially a mindset that puts genres and media in discourse—and the pull of technology help change the cultural landscape.

For example, using “real-time interactive simulation”—i.e., the videogame skills that students at DigiPen will develop—future readers of the Tufts University Perseus Project will be able to walk through a virtual Acropolis, electing either the archeological site that exists today, or a reconstruction similar to the models of Pompeii that have already been created [21]. But the technical feasibility of incorporating images or sound into a book doesn't provide the epistemological motivation or aesthetic reason for doing so. That is, if all the techno-jargon is stripped from Wired magazine, the championing of virtual reality sounds a lot like the championing of plain old realism, while the VR experience itself sounds a lot like what used to be called getting lost in a book—an enduring, if low-tech, virtual reality device whose experience is easily shattered by literal depiction of its content.

Rather, a more fundamental reason for the digital transformation of culture seems to lie in the fact that it reflects not so much what we see as the way we see. In this light, it is easy to understand the enthusiasm for VR—an enthusiasm that is probably repeated throughout history. Think of the Renaissance viewer standing before the hyperrealism of a perspective painting

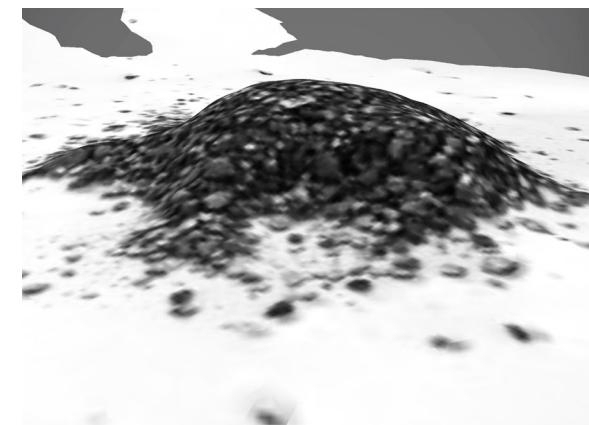


after having just come off a diet of iconography.

Think of turn-of-the-century Parisians gathered around the first kinescopes to watch a jerky movie of a horse. The horse, i.e., the content, obviously wasn't what excited people whose real horses were tied up outside. Rather, it was the virtual reality of the kinescope, that is, the modern way of seeing it afforded—a way to order the world through division and recombination with ramifications as profound as the perspective painting with its case for ordering the shapeless always-ever-present in a spatial, rather than divine, hierarchy. Razor blades, light bulbs, phonographs—the great wash of consumer products made possible by the rise of modern manufacturing stood for modern society, and people made themselves modern by using them. And this was especially true for products which embodied a modern way of orienting oneself to the world.

In this sense, the sense that a formal way of seeing can also be an icon for a culture, technology is often its own justification. It also answers why we can be excited about downloading a QuickTime movie with its jerky, kinescope-like movements, small size, and grainy resolution. And its claim to realism. What 'real' means here is the ability to represent the way people think at the turn of our century. After the turn toward semiotic reading in virtually every humanities discipline, the rewriting of knowledge has become a given. Indeed, walking through the stacks of a university library, it's easy to get the creeping sensation of being surrounded by a vast Victorian collection of beetles, the bulk of the specimens written in the days of catalog as Teleology. Like these books, like perspective painting Dante's chaining rhyme scheme, like Seurat's pointillism, like the illuminated manuscript with its ability to link Biblical passages through icons-like a scientific theory or any narrative, the digitally driven work of art is a system for knowing that is inherently an argument about how the world is made up.

But unlike traditional genres, culture created out of the unique properties of digitalization expresses an understanding of the world that is impossible to achieve in painting or the linear novel, to cite just two examples. That is, the increasing dependence on bytes and the exploitation of their ability to be manipulated parallels at the most elementary level the contemporary conception of knowledge and how it is best represented. The acceptance of manipulatable bits as the dominant means by which to create and transmit culture accompanies an acceptance that everything is written and is therefore infinitely open to rewriting. The bit's inherent ease of transmission and openness to interactivity invites dialogue and revision to a degree that the printed book, with its dry ink and fixed pages, cannot. It inherently accelerates the decline of the Author, the rise of a multitude of authors, as well as the diffusion of Origins and Authority. As a lingua franca, the digital bit invites interdisciplinary partnership (e.g., the programmer and the musician).



The hybrids it makes possible also fuel the tensions that accompany the erosion of genre (e.g., digitally mediated court evidence, the scholarly book as entertainment, the docudrama, the nation-state...). Of course many of the characteristics of our digital culture predate digital technology; avant-garde experiments are replete with works like "Zuam," a poem with its lines written on playing cards that could be shuffled by the reader. But the mass exposure—or more accurately, the mass participation in digital culture made possible by the very nature of digitalization—ensures broad-based shifts in thought: the demise of modernist heuristics ("Less is more!") for example, or the rise of contentious reading practices that make something as seemingly straightforward as counting heads for the census a semantic battleground. Indeed, many of the inherent character and therefore indeterminacy, dispersal of component of origins, of author authority—many of these seem also to characterize our historical moment.

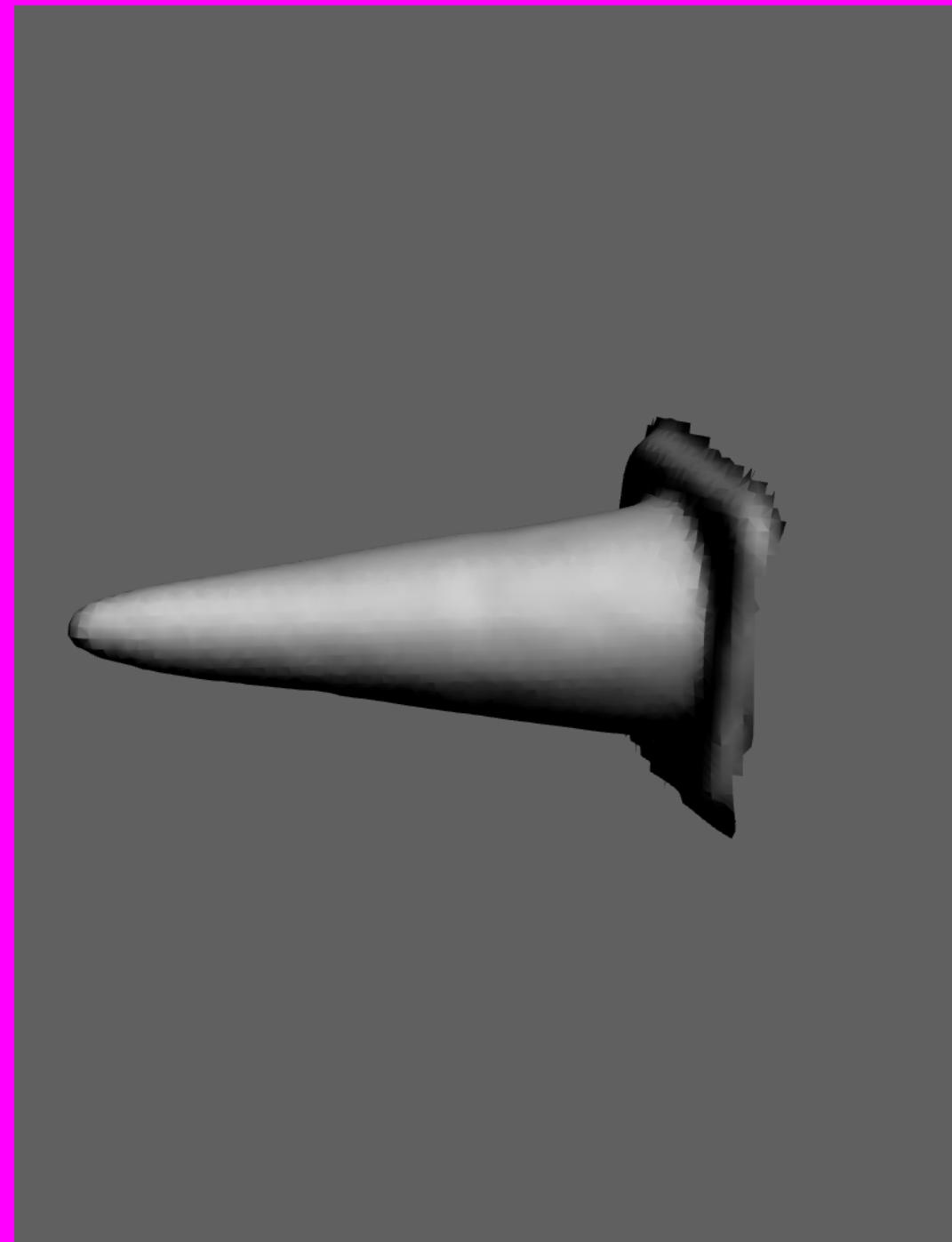
No doubt this is partly due to the Janus-like relationship between the digital infrastructure of our culture and the proliferation and cultural absorption of digital representation: the cyborg, the legalization of facsimile signatures, the chat room, to name a few. That is, the digital landscape draws attention to its own constructed nature and in so doing sets in motion its own inability to say everything even as it draws on the theater of memory to do so.

More importantly, it feels right. So right that creating and transmitting ideas in a form that is visual, linked, interactive, and accessible to a worldwide audience increasingly becomes a kind of second nature—the natural way to mirror a world that is marked by the morphing of History as a unified narrative into history as the multiplicity of voices, the morphing of Freudian paranoia into Lacanian schizophrenia, the morphing of ambiguity into indeterminacy, transcendence into immanence, hierarchy to free play, master code to mass carnival, paradigm to hegemony, proletariat to cognitariat, words in print to image on screen, modernist alienation to postmodern integration, genres to hybrids, Logos to lacuna, transparent window to self-conscious page.... Including this one.

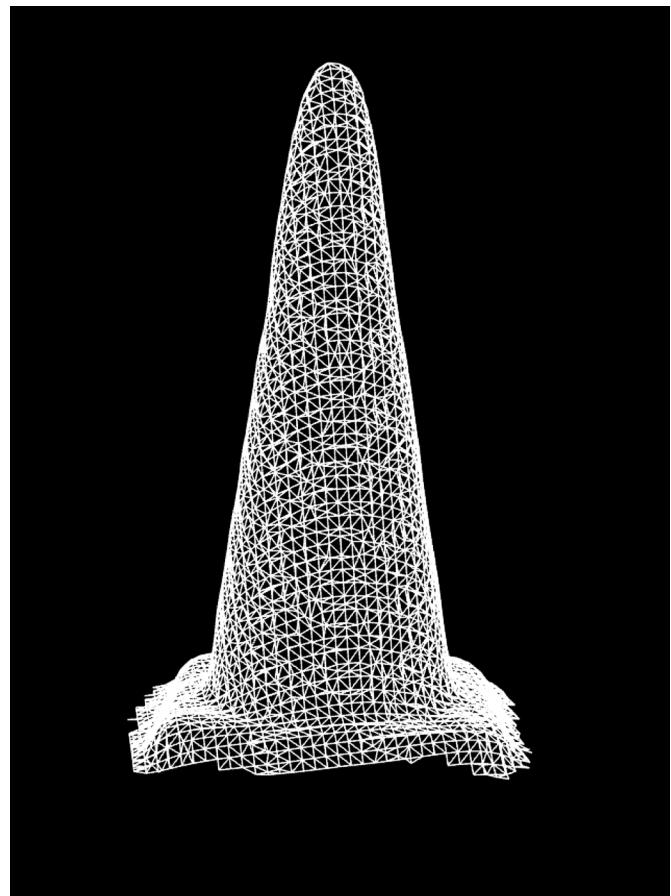
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CONE ← → TRAFFIC CONE

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Polygon Sect.	4 sections
Image Size	5.4mb







Characters of Pinus: The Lateral Cone

Author(s): George Russell Shaw

Source: *Botanical Gazette*, Vol. 43, No. 3 (Mar., 1907), pp. 205-209

Published by: The University of Chicago Press Stable

URL: <http://www.jstor.org/stable/2466226>

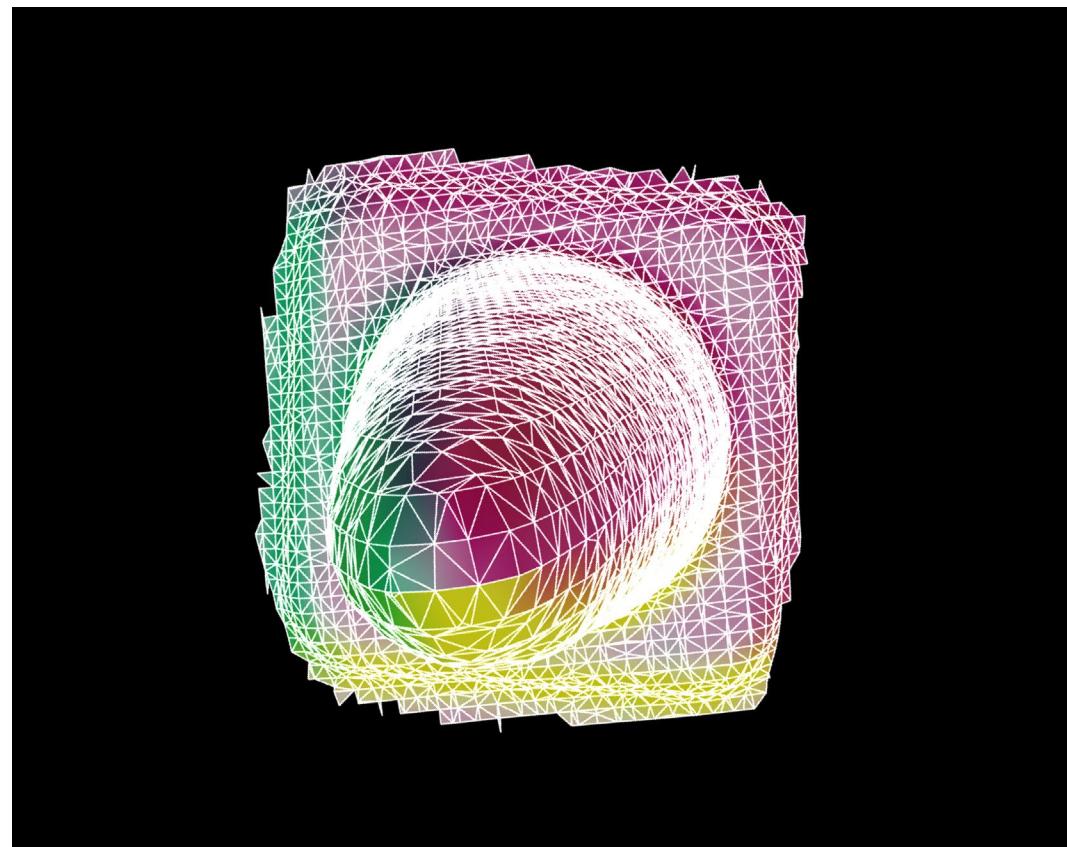
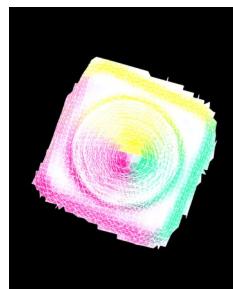
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In Trees and Shrubs (I: 209, L905) under *Pinus Altamirani*, attention is called to the variation in the position of the young cone as follows: "Like some other Mexican pines with normally subterminal cones, it sometimes produces double nodes and lateral cones and pseudo-lateral young cones occasioned by a short incomplete midsummer growth." The three possible positions of the young cone are here found in the same species, and suggest the investigation of characters which have been considered by some authors to be of weighty significance in the determination not only of species but of comprehensive sections of the genus.

In comparing the winter bud of *Pinus Strobiformis* with that of *P. rigida* or *P. Banksiana* (*divaricata*), two distinct forms are seen, the former predicting a single internode for the shoot of V the following spring, the latter two or more. A uninodal shoot, when developed, consists of a shorter leafless base (which bears the staminate flowers when they are present) and a longer portion bearing the foliage and terminating in a node of buds, a terminal bud, and a verticillate group of subterminal buds about its base. A multinodal shoot, in addition to this, bears a Shoot. with comprises one or more inner internodes, each clearly defined by a leafless base at one end and a node of lateral buds at the other (fig. FIG I). The pistillate flower, the future cone, takes the place of one of the subterminal or lateral buds.

On uninodal shoots its position is necessarily subterminal; on multinodal shoots it may be either subterminal or lateral or both, even on the same shoot. Evidently the characters implied in the "subterminal and lateral cones" of authors would have a wider application and a more accurate significance if expressed in terms of the uninodal and multinodal vernal shoots, since these last characters are present on young or sterile as well as on fertile trees, while the lateral and subterminal conelets often coexist on the same branch. "Subterminal cone" is an unfortunate term.

No distinction has been made by authors between the immature cone of the first season, which may be either subterminal or lateral, and the ripe cone of the following season when it is invariably and inevitably lateral; therefore "conelet," proposed by MOHR exclusively for the cone of the first year, will be used here. After the vernal growth is clearly defined and the flowers have been pollinated, it often happens that a summer growth takes place that was not apparent in the winter bud. This growth, in the summer, differs from the spring growth not only in its less development but also in its green bracts, which, not being required for the protection of the winter bud, assume more or less completely the size, color, and character of the primary leaf; and at the end of the season, when the bracts have withered or fallen away, this summer shoot can be recognized by its shorter leaves. This growth, of course, Summer Shoot, does not affect the status of those conelets (K S whose lateral position has been established



already on the spring growth, but it reduces subterminal conelets to a quasi-lateral position and converts a uninodal into an imperfect multinodal shoot. This summer growth is quite common and may occur on any pine. On most species it is merely sporadic, appearing here and there on vigorous branches, more commonly on younger than on older trees; on a few species it is usual and characteristic, at least in youth. Of these latter *P. Butn-geuiaia* the Chinese nut pine, is a very perfect example, and its hardiness in this latitude offers an excellent opportunity for the study of this peculiarity.

The three positions of the conelet, corresponding to the uninodal, multinodal, and summer shoots, may be conveniently distinguished respectively as subterminal, lateral, and pseudo-lateral conelets. They have been described, to avoid ambiguity, without qualification and without considering the variations and exceptions that arise from the complex influences, internal and external, temporary or permanent, that may modify the development of the annual growth. As a matter of fact, while the characters under consideration may be potential in a species, they are not always invariable or consistent. A multinodal shoot, at the lateral nodes, may put out conelets or branchlets or both; either may be absent or be represented by a bud which may or may not develop the following year; or there may be nothing whatever to indicate the lateral node except the leafless base of the internode beyond.

Again, the winter bud is an incipient branchlet, the beginnings of a growth to be continued in the spring; the degree to which the bud is developed, at the end of the summer, is subject to the vicissitudes of all growth. The bud destined to produce a multinodal shoot may be so far advanced as to show its purpose at a glance, or its future development may be latent and concealed to a greater or less degree. Multinodal pines often produce uninodal shoots, and this apparent inconsistency becomes more frequent with increasing age, so that individuals of *P. rigid*, and allied species, may be found which are nearly or absolutely uninodal. Uninodal pines, on the contrary, are more constant.

The summer shoot, however, may occur on any species, and may show in autumn various degrees of development which may amount to no more than a slight elongation of the bud or may form a conspicuous tuft of leaves on the end of the branchlet. From its very nature the summer shoot must be regarded as evidence of local or temporary vigor rather than as a specific character, and this is true even of those pines where the development of the summer shoot has almost diagnostic value. *P. Bungeana* and *P. Gerardiana* are credited by authors with "lateral cones" on account of the persistency of this summer growth; but specimens in the herbaria at Kew, Paris, and the Arnold Arboretum show conclusively that their pseudo-lateral conelets partly or completely disappear in mature trees. Taking the genus as

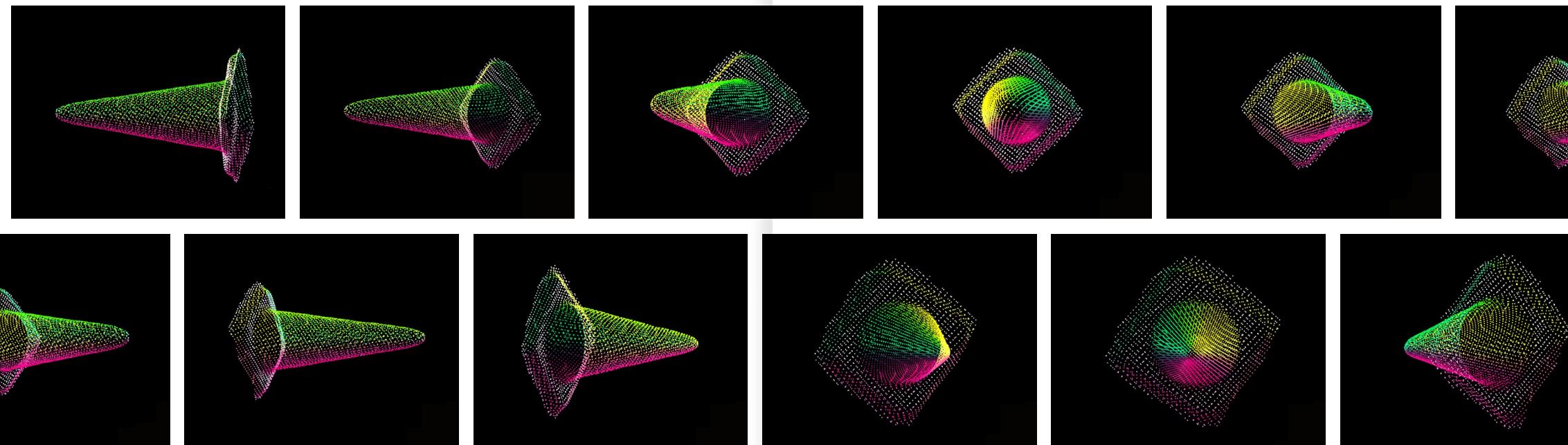
a whole, there seems to be every gradation between the two extremes, the conelet exclusively lateral and the conelet exclusively subterminal.

These considerations point to the conclusion that the difference implied in the "subterminal and lateral cones" of authors is one of degree rather than of kind, and however valuable the lateral conelet may be, when it is present, for the determination of species, it is not available, on account of its inconstancy, for broader classifications. It is therefore evident that a herbarium specimen, so far as it shows these characters, may not represent the normal behavior of a species, and such a specimen may be misleading. In *Jour. Linn. Soc.* (35:60) "a specimen of *P. Montezumae* containing leaves 12-14 inches long and others 5 inches long on the same branch" is cited as if it were unusual. It is evidently the arrested growth of a summer shoot that bears the shorter leaves.

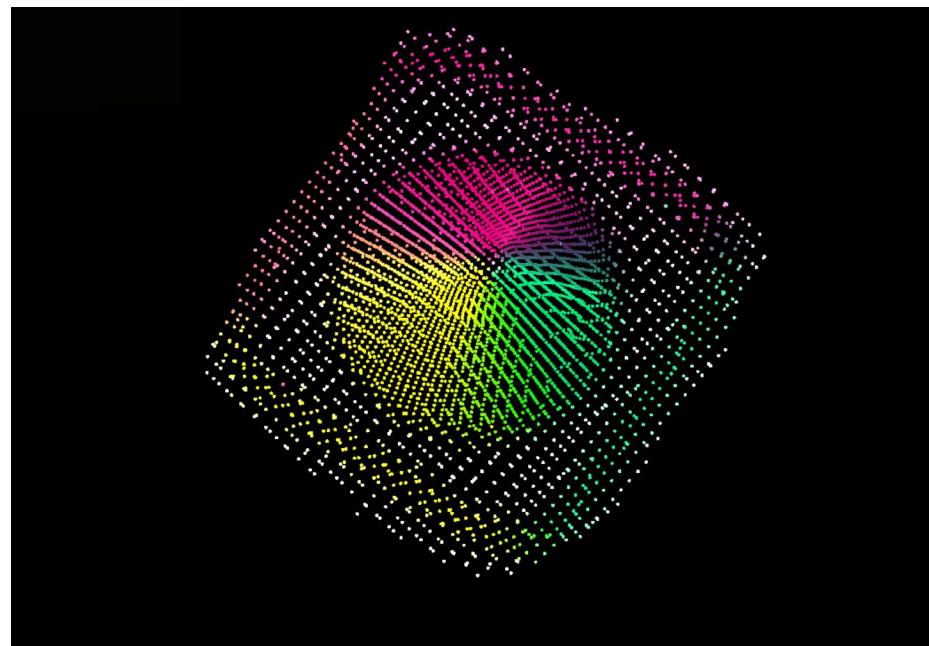
In *Bull. Torr. Bot. Club* (30: 108), *Pinus cubensis anomala* Rowlee, a new variety, is described with "bracts 8mm long, green on the young shoot," and further on, "the reversion of the scales to what is generally considered the primitive form of the primary leaf of the pine is an exceedingly interesting phenomenon." This again, as the specimen shows, is the summer shoot in its usual form, and its counterpart has been observed in a great number of species. *P. teocote* Sch. and Deppe, is described as a pine with a lateral cone.

The summer growth, which is quite frequent on this species, as well as on other Mexican pines, is responsible for this error, as the species bears normally subterminal conelets. *P. contorta* is placed in ENGELMANN'S Revision of the genus *Pinus* (*Trans. St. Louis Acad.* 4:177) in his section PONDEROSAE, though not without hesitation (1. c. 182), on account of its subterminal cone. It is nevertheless a true multinodal pine, bearing cones on both lateral and terminal nodes. In his recent work Wald- und Parkbäume (1906) HEINRICH MAYR makes a distinction between true and false nodes (echte Quirle and Scheinquirle), which may be recognized respectively by the presence or absence of bud scales; "subterminal and lateral cones" are explained in terms of these nodes.

His sections PINASTER and JEFFREYA produce cones at the true nodes, his section MURRAYA at the false nodes. Apparently these characters are held to be invariable, and no allowance is made for the appearance of cones at both forms of the nodes on the same species. Only on this supposition can the anomalies that appear in MAYR'S classification of the pitch pines be explained.

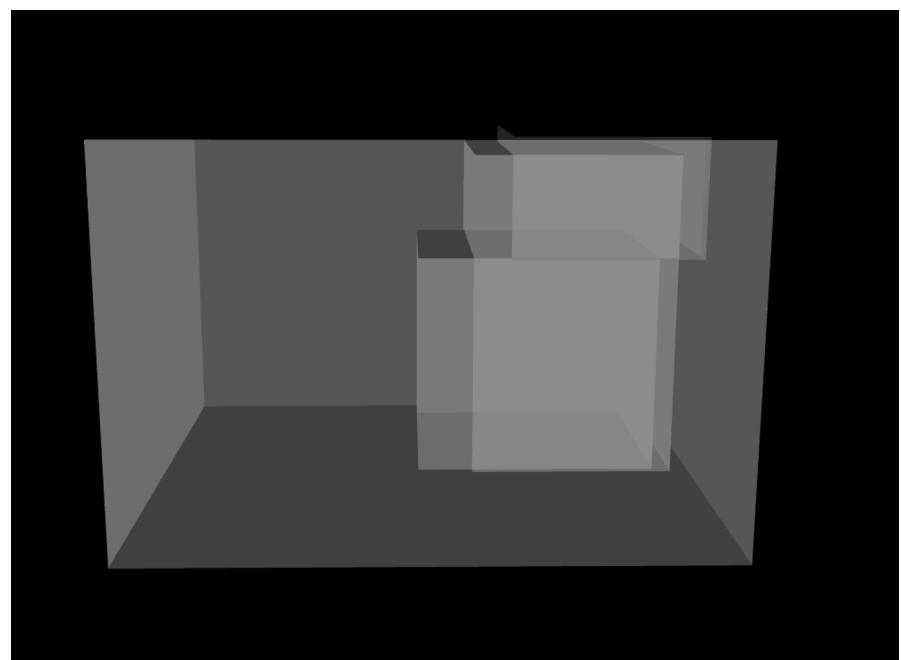


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Pinus rigida is in his section MURRAYA; while *P. serotina*, which does not differ from *P. rigida* in the characters under consideration, is in his section JEFFREYA. *P. halepensis* is in PINASTER, while *P. Brutia* is in MURRAYA. *P. Sabiniana*, *P. Coulteri*, and *P. caribaea* which, so far as they are affected by these characters, belong in MURRAYA, are all in JEFFREYA. These inconsistencies may all be laid to specimens which happen to bear subterminal conelets instead of the characteristic lateral ones. *P. chihuahuana*, which requires three years in which to perfect its cone, is found in the section MURRAYA. Here his distinction between true and false nodes, if it is reliable, should have prevented MAYR from mistaking the conelet of the second year for a lateral conelet.

The species is uninodal and bears subterminal conelets. It is not the purpose of this article to discuss the merits of MAYR'S very interesting arrangement of *Pinus* except so far as it involves the false node and its cone, on which his section MURRAYA is mainly founded. It serves to illustrate, however, the elusive character of the "lateral cone," which should be regarded as an incident, more or less persistent, in the life of a pine, rather than as an invariable character.—GEORGE RUSSELL SHAW, Arnold Arboretum, Jamaica Plain, Mass.

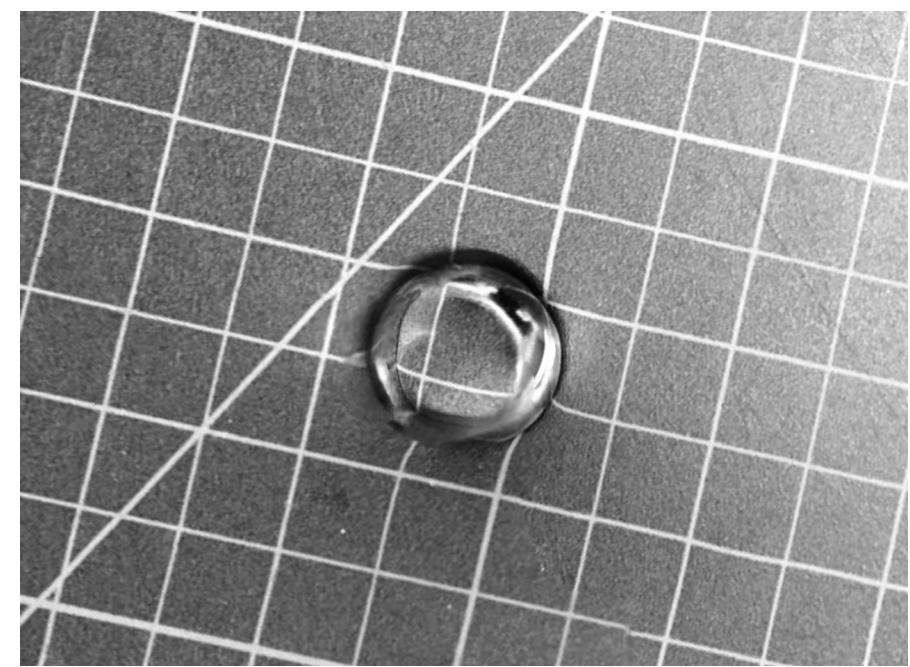
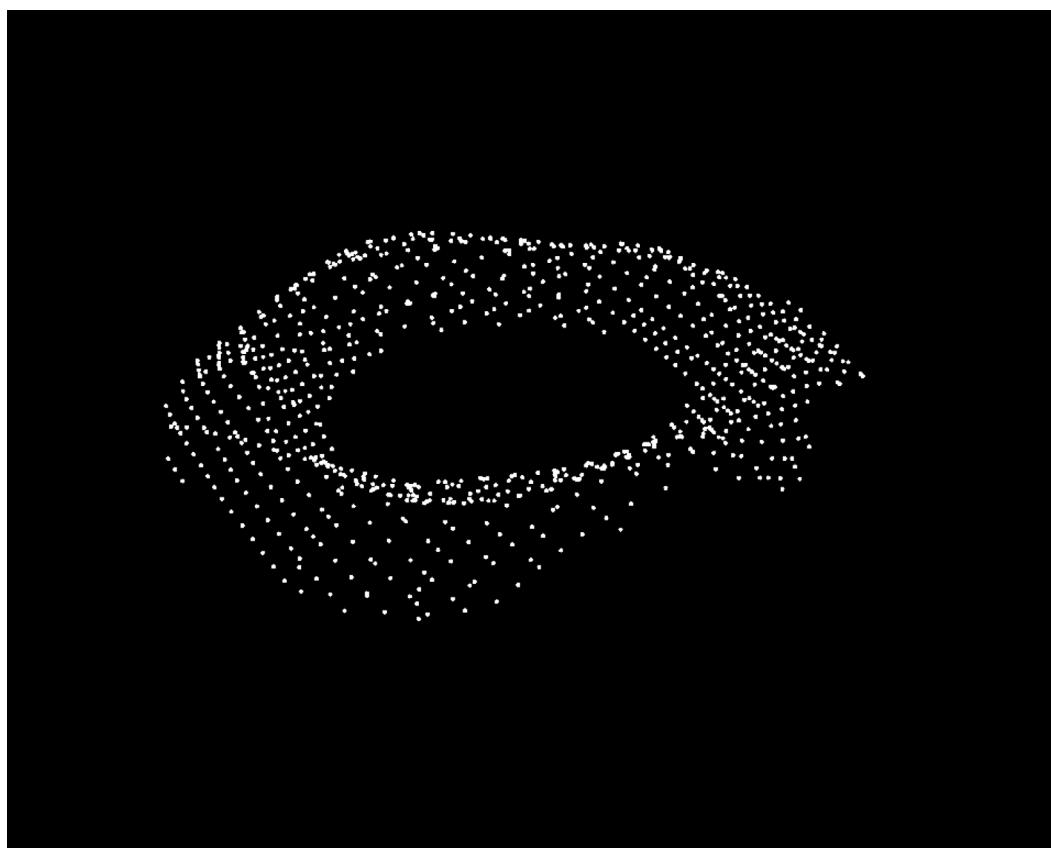


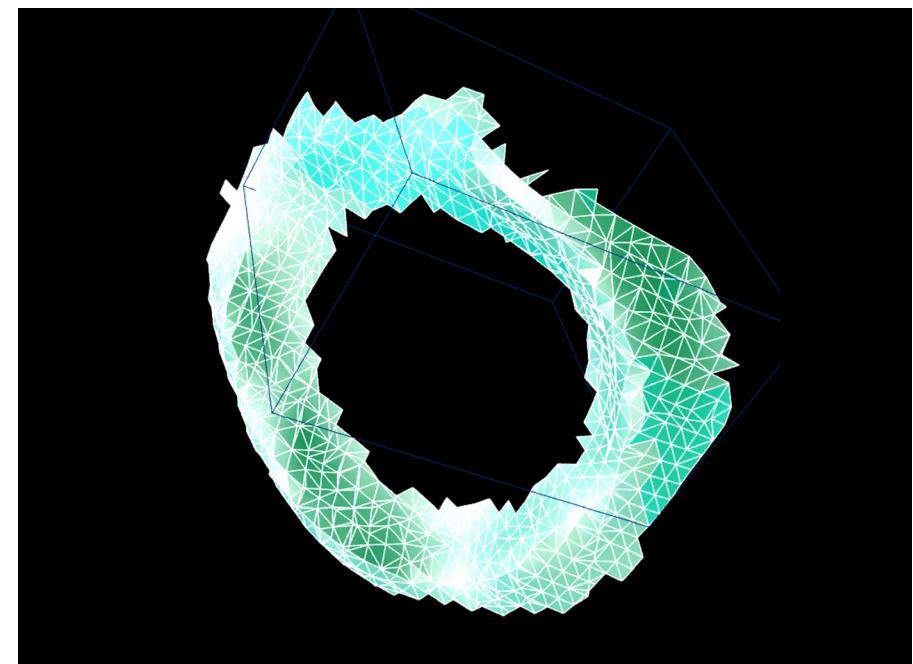
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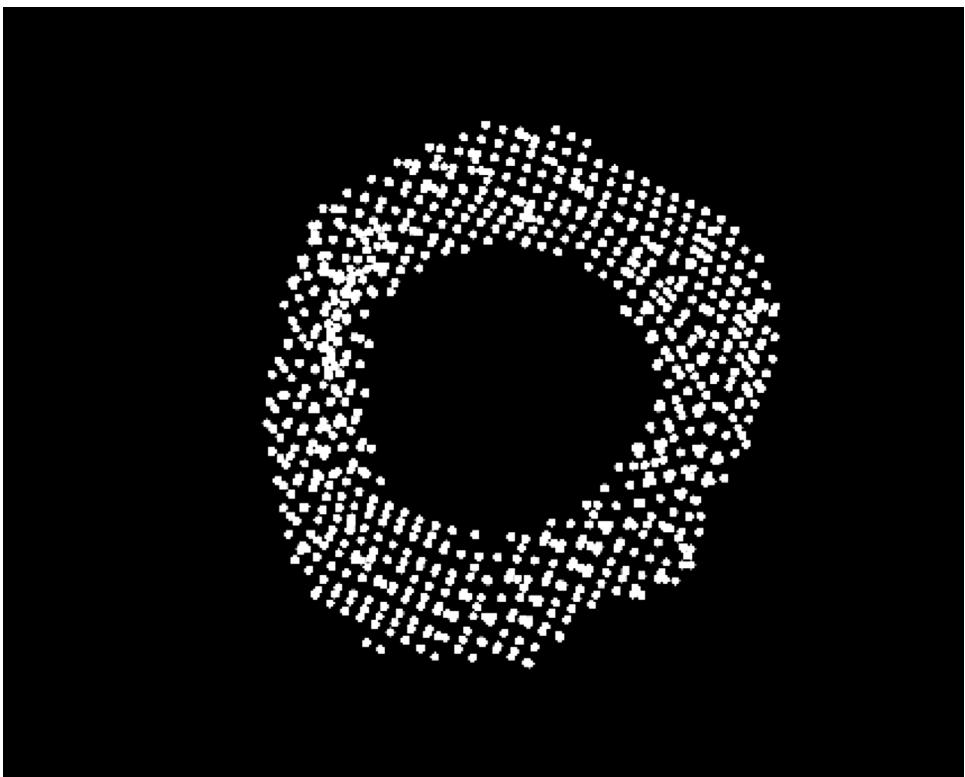


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6



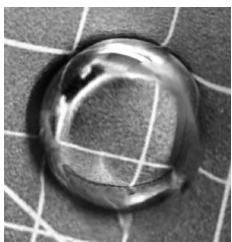




The Torus, the Zero Point Energy Field = Creation Story

Author: Rita Marr

CCHyp, MPNLP Spiritual Teacher and Metaphysical Physician Specialising in Light Medicine



The Torus. I'm betting that's an unfamiliar word to you. However the torus is the oldest structure in existence and without it nothing could exist. The toroidal shape is similar to a donut but rather than having an empty central "hole", the topology of a torus folds in upon itself and all points along its surface converge together into a zero-dimensional point at the center called the Vertex. It has even been suggested that the torus can be used to define the workings of consciousness itself. In other words...consciousness has a geometry! The geometric shape used to describe the self-reflexive nature of consciousness is the torus. The torus allows a vortex of energy to form which bends back along itself and re-enters itself. It 'inside-outs', continuously flowing back into itself. Thus the energy of a torus is continually refreshing itself, continually influencing itself. Toroidal energy fields exist around everything. People. Trees. Earth. Planets. The Sun.

The Solar System. The Galaxy. The Universe. The Source. Electrical engineers are very familiar with toroids as frequency converters. One frequency goes in one end and a different one comes out the other side. The whole of creation exists because of the first torus. For many years I have been seeking the truth about how the Universe was created. The best explanation I found was in the kabbalah where it is said, and I paraphrase, 'in the stillness of the void God moved and in moving created space for some aspects of himself to move away to a location other than in him'. This meant that he had created a partner, a creative force that went on to create everything else in the Universe. This explanation was hard to conceive of until I came across this excellent computer visual of how that movement occurred. The concept was given to Itzhak Bentov and he wrote about it in his book on the mechanics of consciousness called 'Stalking the Wild Pendulum published in 1977 two years before his untimely death in the tragic AA flight 191 Chicago O'Hare airport disaster. Itzhak calls it the Cosmic Egg and you will see how the egg morphs into the first torus.

The sound of the two polarities of the egg coming back together was in essence the original sound - the 'word' as it was translated from the original ancient sacred text. "In the beginning was the word and the word was with God". John 1:1 A slightly different type of big bang that the one Stephen Hawkins postulates Itzhak Bentov was a scientist,inventor, and an early pioneer in the research of consciousness. By blending analytical knowledge and intuitive insight, Bentov was the first to develop what is now widely accepted today as a holographic model of reality. This film is a short encapsulated version of his inspirational exploration of consciousness and the cosmos, presented in its original form by his widow Mirtala.

Ultimately your perception of reality will be turned inside out by the facts presented in this critically acclaimed film.. I consider this work to be the best ever explanation of our evolutionary process. Just one and a half

hours of viewing will change your perception of yourself and the Universe forever. You have been warned! All Toroids have a black hole at one end and a white hole at the other. Black holes suck in energy and white holes emit it. So in our human body toroids we have black (negatively charged) and white (positively charged) holes. When the torus is in balance and the energy is flowing we are in a perfect state to clear ourselves of anything that is ‘not self’ anything that prevents us being our authentic selves.

This ZPE occurs at the junction of the white hole and the black hole where there is what is known as the Vertex. The ZPE energises and enlivens living organisms. It neutralises harmful frequencies. It increases spiritual awareness, a sense of oneness, and is in our higher consciousness. This is ostensibly a void of no-thingness yet it contains full potential to create. Because this Zero Point Energy Fields exists within us wherever a torus exists we truly are fully conscious empowered beings. This ZPEF contains pure potential and can only be activated in one way. By the power of intention, also known as will (NB. this is not personal egoic willpower but our heart based divine will).

The Torus sends out information about itself into its surroundings and that information can be picked up by another sentient conscious being. We may term that psychic ability. So Consciousness has a body and that body is the Torus.

So as you have within you the very same substance that was there in the beginning of Creation and as God made you in the same way as creation then the only thing that stops you getting in touch with God is a belief that you cannot.

Perhaps now is a good time to define God

In humans the energy flow in through the head and feet is bidirectional. In other words it flows like the tides one way and then the next. In the matrix of this flow are the wave and particle relationships that structure and govern the nurturing “cosmic” energy from which we are crystallized.

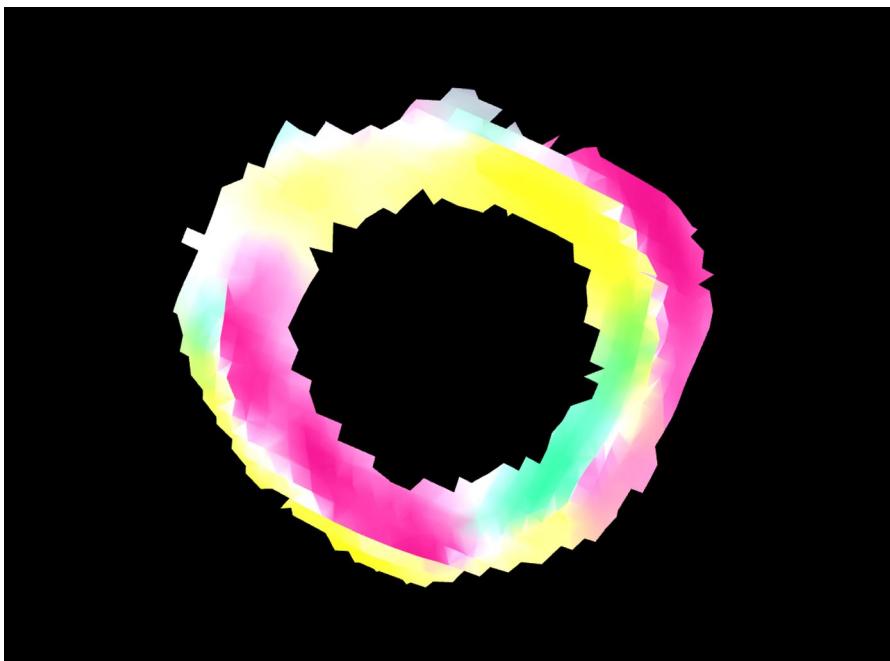
Some amazing work has been done over the years by Dan Winter (whose books are now out of print), who suggests with geometric diagrams that the only way self-reflexiveness can continue without breaking down is by using waveforms based on harmonics of the golden mean (a ratio found everywhere in nature). He claims our very DNA is a helix formed by 2 rotating geometric figures called icosahedrons and dodecahedrons.

God = One is an equation central to all monotheistic faiths. The problem arises when attempting to find a universal concept of God and a common meaning for everyone. God in our society is subjective and the word God has different meanings for different people. Faith alone does not seem to work for everyone. Various cultures and religious traditions define God in dissimilar ways which too often becomes the seed of many conflicts.

There is another side of the God = One equation, the concept of One, of Unity. One-ness is an extremely difficult concept for us to accept. We cannot understand the philosophical notion of Unity based on our observations of the world around us (the three dimensional world). But One is a number. And numbers are the language of mathematics. In mathematics, we find a language that actually does transcend cultural limitations.

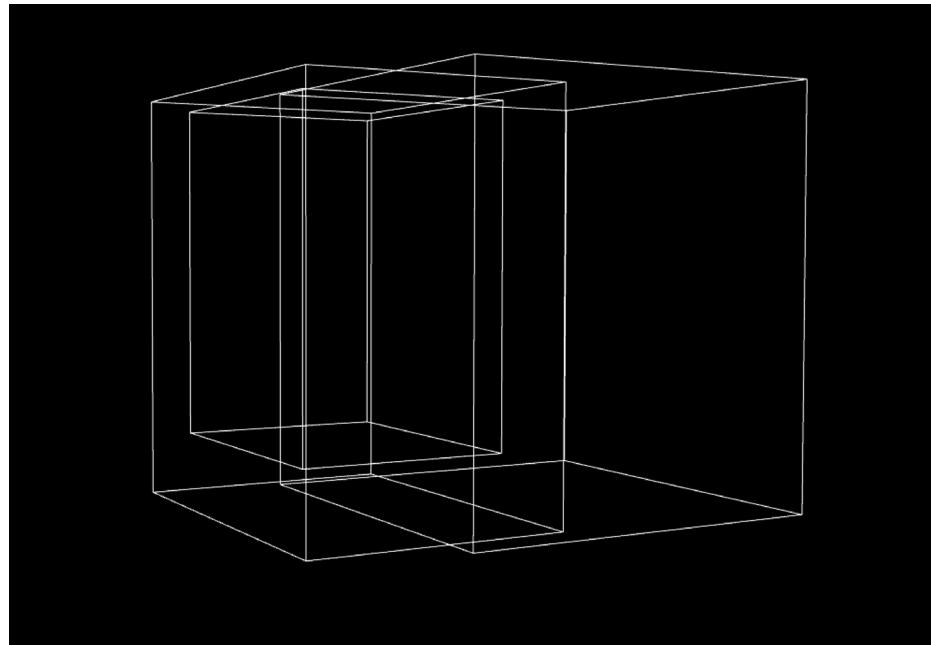
Two plus two equals four no matter what we believe in. All architects equally accept pi as the relationship of the radius to the circumference of a circle. A key element in my research is the investigation of this concept, Oneness. From the perspective of One, as presented in the Torah, perhaps we can begin to understand and rationally discuss the concept of God.

6



100-101





There are degrees in idealism. We learn first to play with it academically, as the magnet was once a toy. Then we see in the heyday of youth and poetry that it may be true, that it is true in gleams and fragments. Then, its countenance waxes stern and grand, and we see that it must be true. It now shows itself ethical and practical. We learn that God IS that he is in me; and that all things are shadows of him. The idealism of Berkeley is only a crude statement of the idealism of Jesus, and that again is a crude statement of the fact, that all nature is the rapid efflux of goodness executing and organizing itself. Much more obviously is history and the state of the world at any one time directly dependent on the intellectual classification then existing in the minds of men. The things which are dear to men at this hour are so on account of the ideas which have emerged on their mental horizon, and which cause the present order of things as a tree bears its apples. A new degree of culture would instantly revolutionize the entire system of human pursuits.

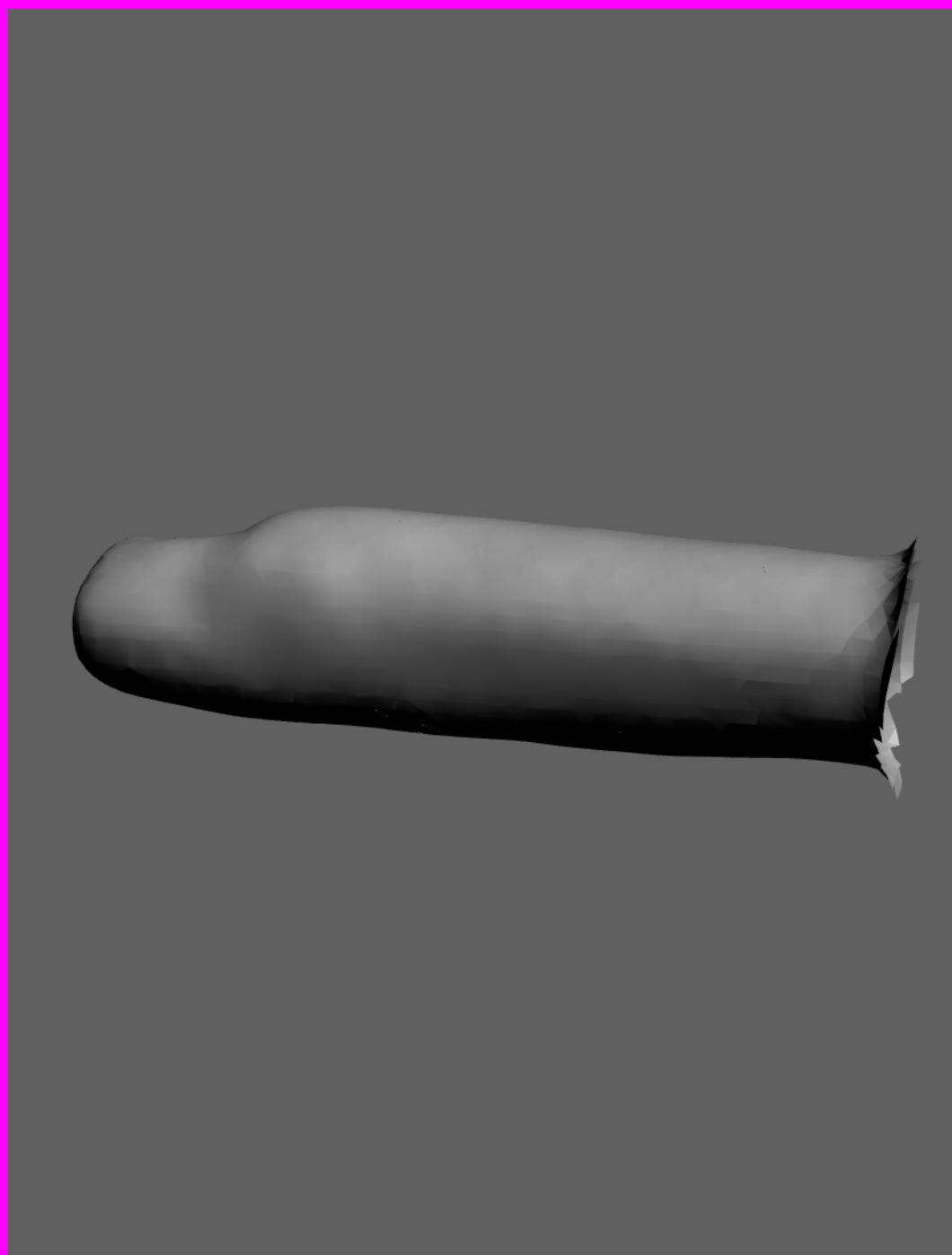
Conversation is a game of circles. In conversation we pluck up the termini which bound the common of silence on every side. The parties are not to be judged by the spirit they partake and even express under this Pentecost. To-morrow they will have receded from this high-water mark. To-morrow you shall find them stooping under the old pack-saddles. Yet let us enjoy the cloven flame whilst it glows on our walls. When each new speaker strikes a new light, emancipates us from the oppression of the last speaker, to oppress us with the greatness and exclusiveness of his own thought, then yields us to another redeemer, we seem to recover our rights, to become men.

O, what truths profound and executable only in ages and orbs are supposed in the announcement of every truth! In common hours, society sits cold and statuesque. We all stand waiting, empty, — knowing, possibly, that we can be full, surrounded by mighty symbols which are not symbols to us, but prose and trivial toys. Then cometh the god, and converts the statues

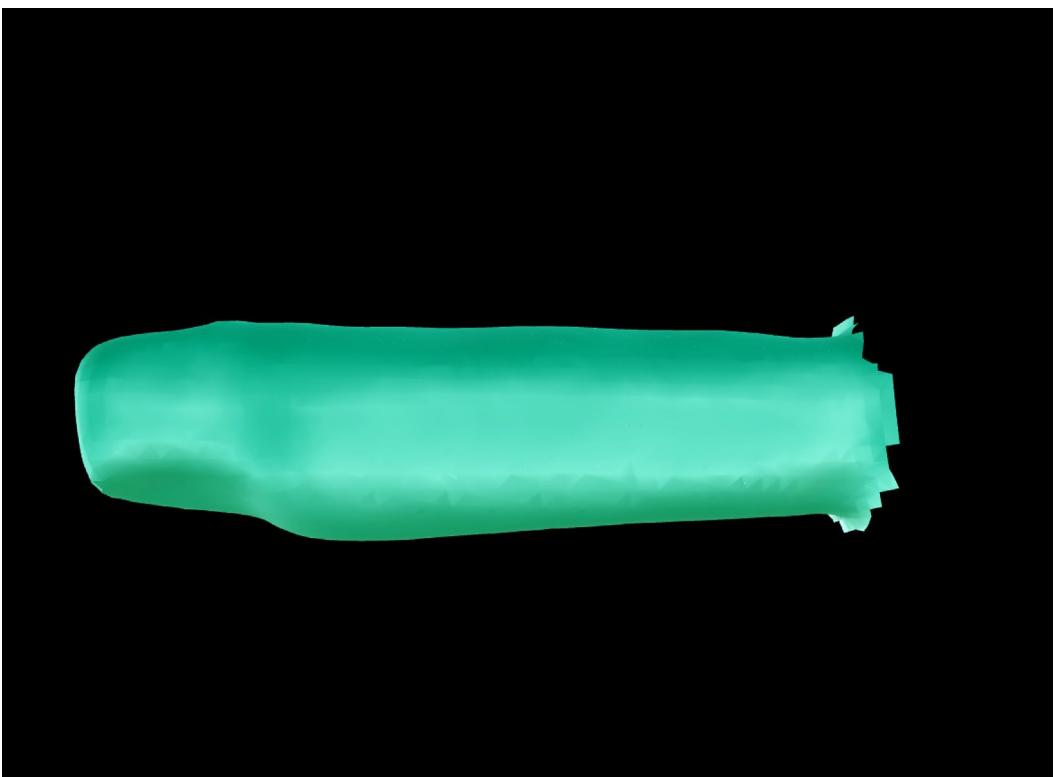
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CYLINDER ←

→ CHAPSTICK



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Material(s)	Plastic
Polygon Count	330 polygons
Polygon Sects.	2 sections
Image Size	4.5mb

*Order Hidden under Chaos**Author(s): Sylvie Pic**Source: Leonardo, Vol. 32, No. 3 (1999), pp. 176-177**Published by: The MIT Press**Stable URL: <http://www.jstor.org/stable/1576784>**Accessed: 19-02-2017 22:02 UTC*

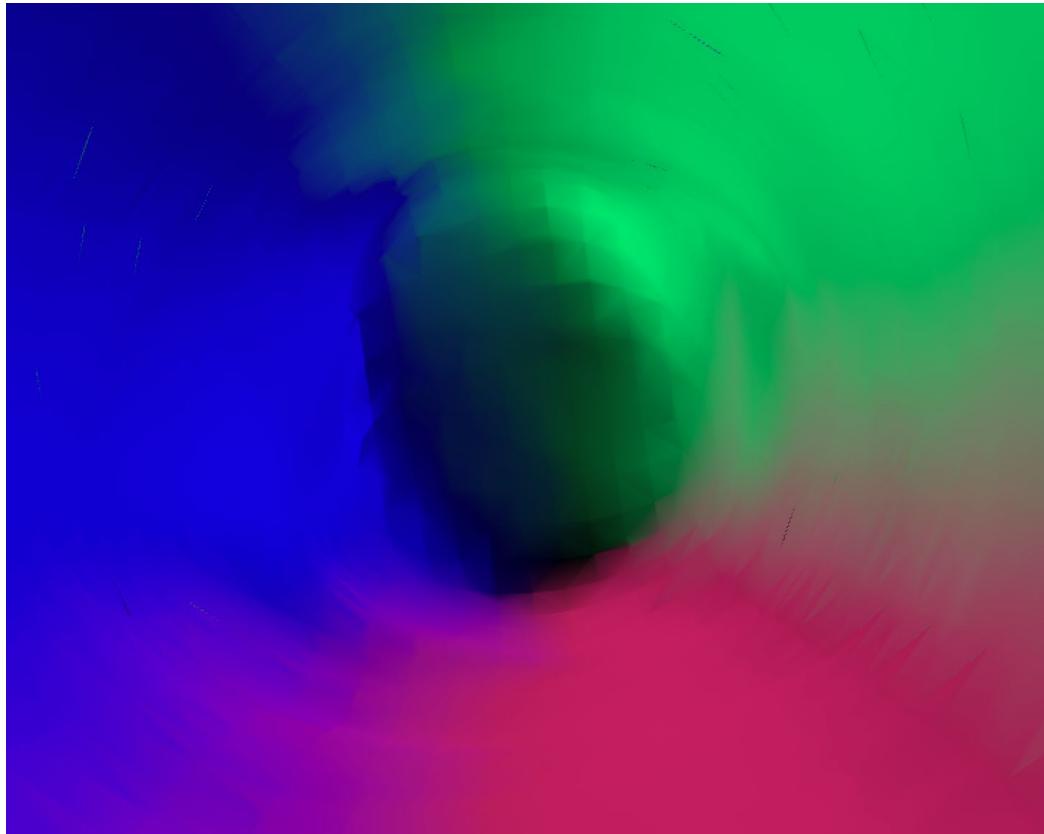
The other works in the exhibition reflected the same theme, albeit in slightly different ways. *Mungo Beans*, a series of five Cibachrome photographs, presented the cycle of growth and decay of a plant. *24 Hours Reykjavik* was a 16-minute video that split 1 day into 96 sequences of 10 seconds each, one shot every 15 minutes. It was filmed from a single vantage point within a fixed frame as if one had spent a day looking out of a window. *Spots*, a Super-8 film loop projected onto a screen, showed dots of light in constant motion. Because the loop created an endless rhythm, the start and end of its cycle was very difficult to recognize; the resulting effect was a notion of infinity.

Although my approach as an artist is purely intuitive, these pieces, in particular *Time Is Light* and *Mungo Beans*, demonstrate a facet of nature that has long intrigued scientists, namely how different biological systems evolve over time; the first piece with increasing disorder; the second one, increasing order. The other works in the exhibition reflected the same theme, albeit in slightly different ways. *Mungo Beans*, a series of five Cibachrome photographs, presented the cycle of growth and decay of a plant. *24 Hours Reykjavik* was a 16-minute video that split 1 day into 96 sequences of 10 seconds each, one shot every 15 minutes.

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ORDER HIDDEN UNDER CHAOS Sylvie Pic, 67, Bd. Reynaud, 13008 Marseille, France. Received 16 September 1998. Accepted for publication by Jacques Mandelbrojt. In the spring of 1998, within the framework of a celebration of the tenth anniversary of the Chateau de Serrieres art gallery in Marseille [1], I was invited to undertake an art project in a factory using the material produced on site. From several possibilities, I chose to work in a rubber factory that manufactures a wide variety of objects and shapes through molding and extrusion techniques.

As an artist, I have a long-standing interest in mathematics, especially in its role in the formalization of our sensorial experience. More specifically, I have an interest in topography, which I believe can be used to describe psychological states. I was invited to undertake an art project in a factory using the material produced on site. From several possibilities, I chose to work in a rubber factory that manufactures a wide variety of



objects and shapes through molding and extrusion techniques. As an artist, I have a long-standing interest in mathematics, especially in its role in the formalization of our sensorial experience. I have an interest in topography, which I believe can be used to describe psychological states.

One of my favorite shapes is the torus. I have made numerous drawings that attempt to show both the inside and the outside of this shape and the relationship between its plenum and its central vacuum. In the project I undertook at the rubber factory, I decided to construct a piece based on an altogether different principle that can be described simply as order hidden under chaos. My initial idea was that the piece should blend in with the factory setting so that externally it would not be distinguishable from the surrounding objects.

At first glance the sculpture is a heap of irregular scraps of black rubber that evokes a termite's nest: Yet something is hidden, dissimulated in its interior, playing in contrast to the fascinating deep black of the rubber. At close quarters an aperture becomes visible, through which one can peer (while experiencing the smell and the touch of fresh rubber), thereby observing the regular, white and luminous architecture of the interior of a torus. Hidden things are generally associated with darkness (and disquiet), and visible things with light. Here, these values are reversed.

The contrast between the orderly shape of the torus and its chaotic surroundings may have suggested to onlookers a number of different things: to some onlookers the piece evoked the order that can exist behind or emerge from chaos; to others, it raised the philosophical question of the relationship between geometry and the real world: does geometry exist prior to the real world or is it extracted from re-ality? To still others, this piece suggested the contrast between reason and the subconscious, in this case reason being paradoxically hidden under the subconscious.

Since I do not like to burden my work with an idea of one "correct" interpretation, my hope is that there are many other possibilities suggested by my work, in addition to those I have mentioned above. For many years I have tried to design something that would be a visual equivalent to music (as have many others [1]). An important feature of music is its notation scheme: a composer can write down his or her creative ideas and another person can bring them to life with a human touch. I have a proposal I call "Visic" for a notation scheme for visual creations.

The intention of my idea is to provide a means to introduce a great variety of images into video space—the imaginary volume represented within the television screen. These images are designed to be introduced and move under the control of a keyboard input device. Using conventional musical notation, a person would be able to compose Visic on paper; another person would "play" Visic in real time by reading the Visic score



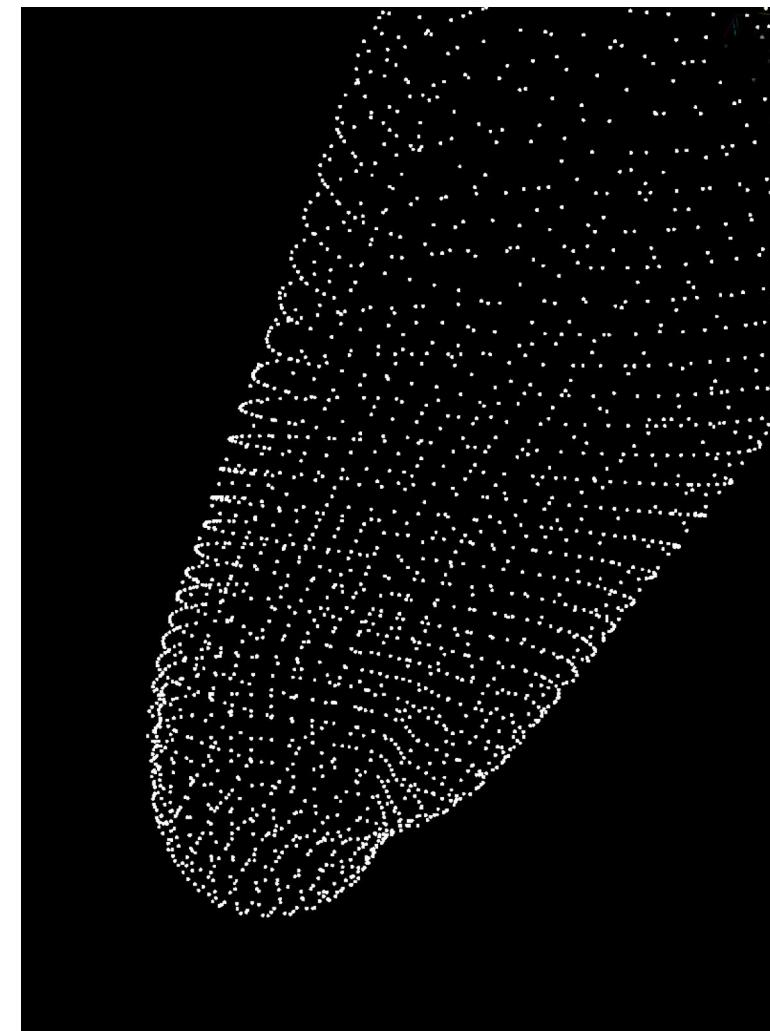
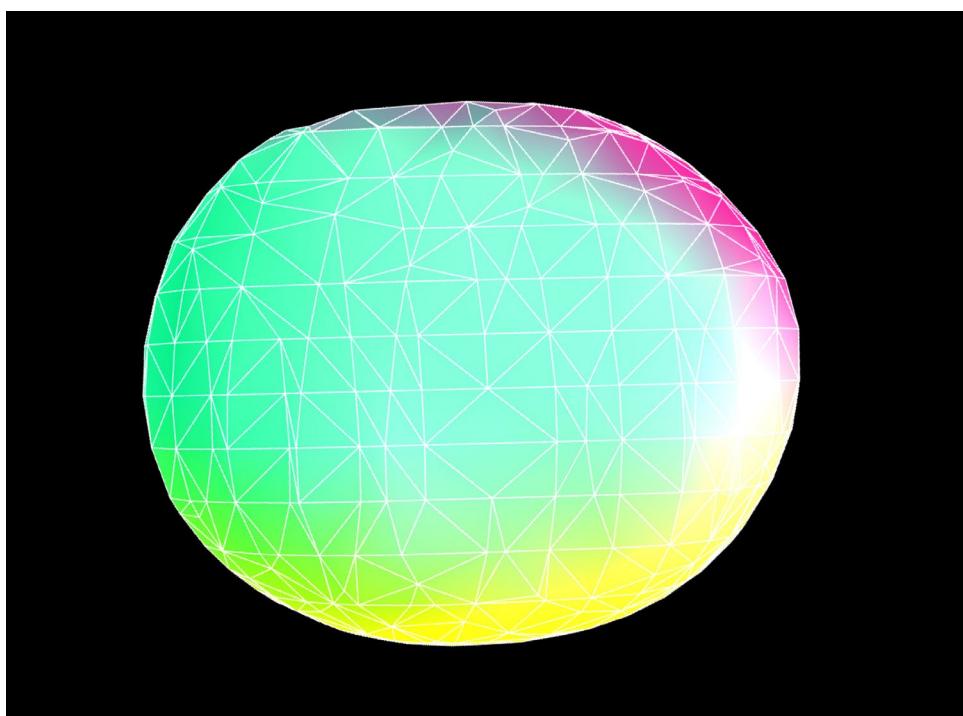
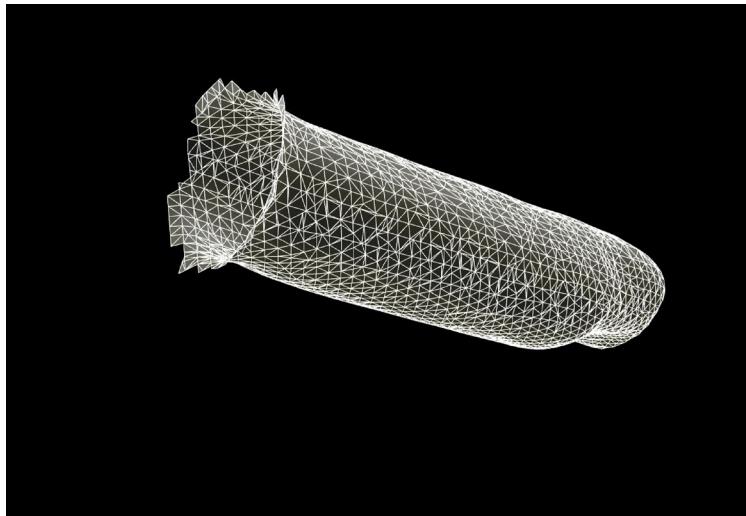
to recreate the composer's original ideas and by adding his or her personal sensitivity. The "playing" of Visic may or may not be synchronized with the playing of sonic music. Since I lack the necessary technological know-how to realize Visic myself, I write this description to serve as a catalyst for the future inventiveness of others. Visic Object Definitions The main premise of my idea is that Visic would permit a person to introduce simultaneously up to 10 computer inputs by playing on a piano-like keyboard [2].

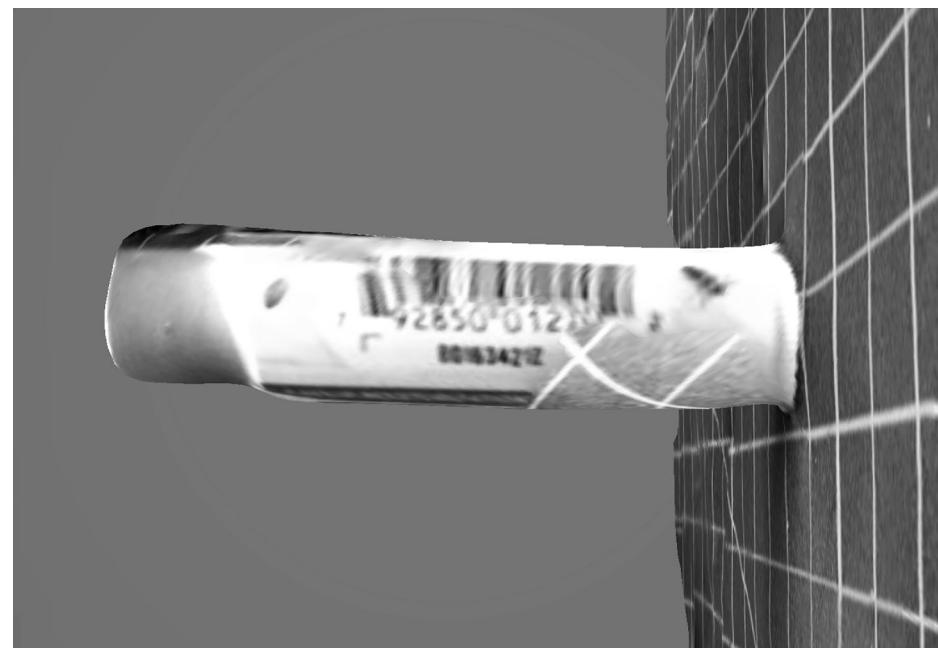
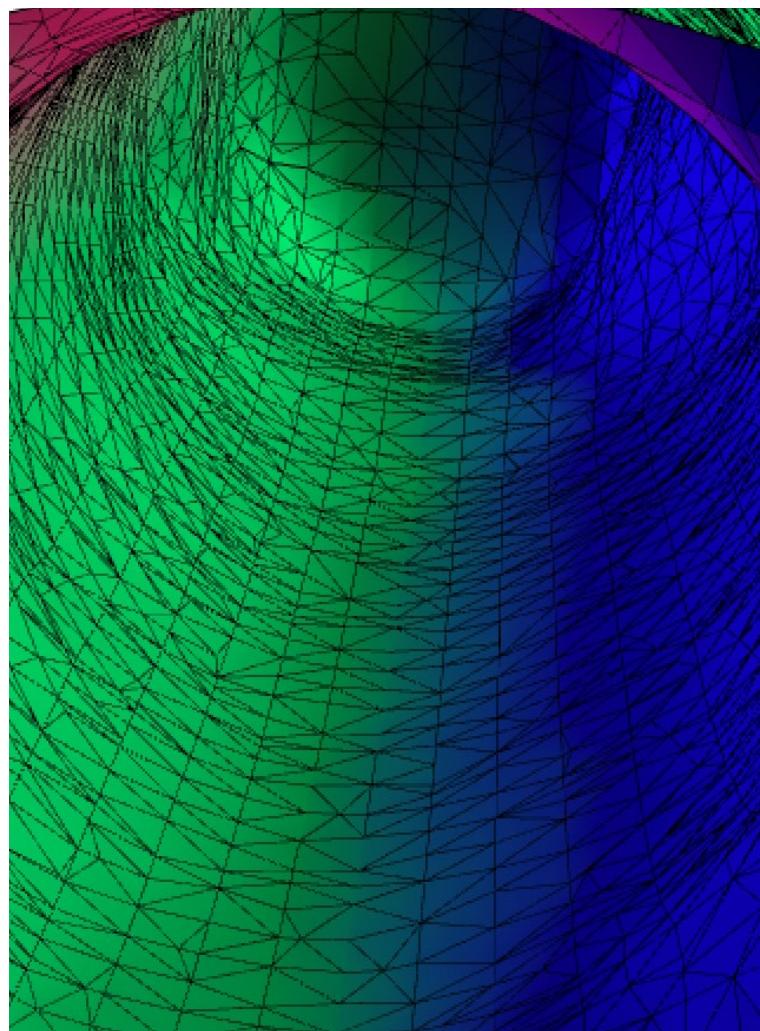
The keyboard for Visic would use a musical instrument digital interface (MIDI) that permits a multitude of switching inputs, with the keys grouped to facilitate playing Visic. Visic would employ traditional piano-music notation, thus enabling anyone trained to read piano music to immediately sit down and "play" Visic. According to my understanding of color-music, one must introduce the equivalent of musical notes in video space. These objects must be totally controllable from the keyboard; a user should be able to choose a particular object, its color, its point of origin, the direction it will take in video space and how it will interact with objects.

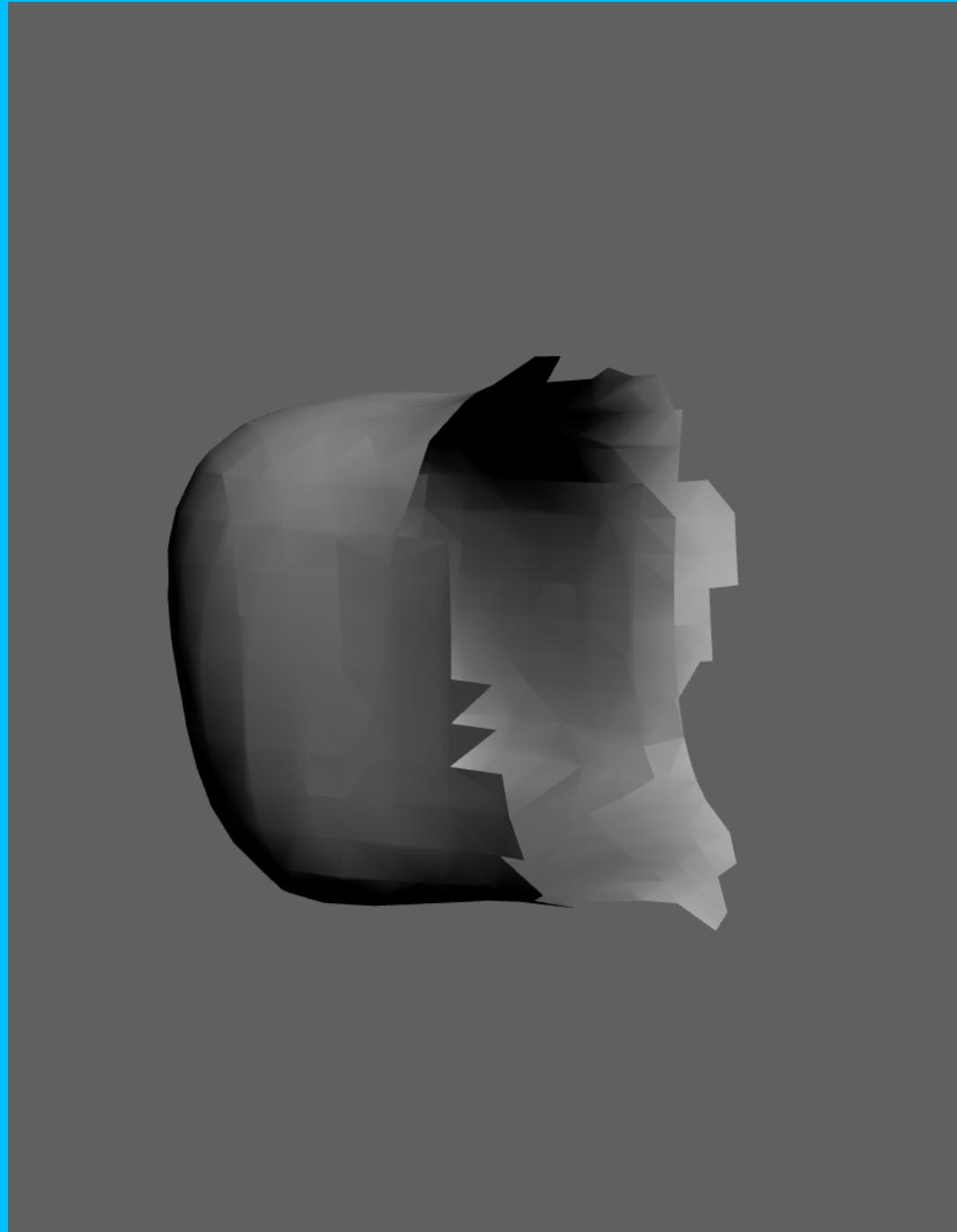
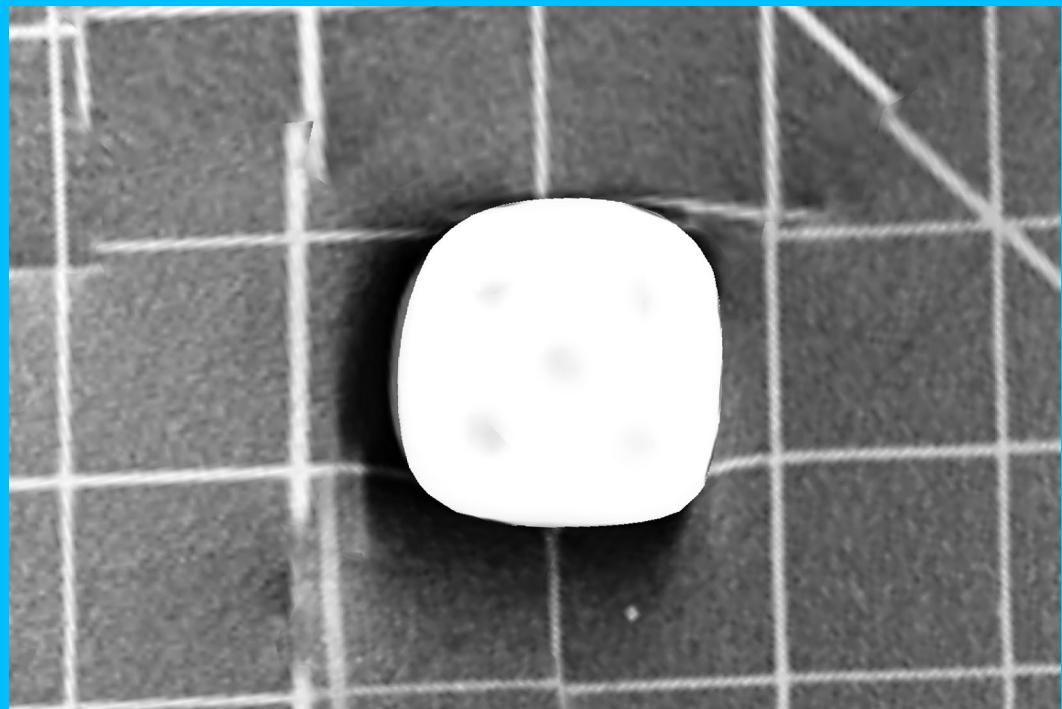
Thus, Visic would allow harmony (the harmonious or dissonant color interactions of objects) or counterpoint (the ways subsequent or simultaneous objects move in respect to each other). Visic would break the color spectrum into a Newtonian color pie with 12 slices-red, red-orange, orange, yellow-orange, yellow, yellow-green, green, blue-green, blue, blue-violet and violet-analogous to the 12 notes of the musical scale (Fig. 3). When two colors are side by side, they influence our perception of each; but if they are broken up as though by a perforated sieve, the resulting dots of color are comparable to pointillism in painting. My conception of Visic uses simple shapes. Rectangles receive the most emphasis because their sides echo and enhance the edges of the screen, resulting in order and visual harmony. Visic would incorporate planes, ribbons, and horizontal and vertical lines, all of pose Visic on paper; another person would "play" Visic in real time by reading the Visic score to recreate the composer's original ideas and by adding his or her personal sensitivity.

The "playing" of Visic may or may not be synchronized with the playing of sonic music. Since I lack the necessary technological know-how to realize Visic myself, I write this description to serve as a catalyst for the future inventiveness of others. Visic Object Definitions The main premise of my idea is that Visic would permit a person to introduce simultaneously up to 10 computer inputs by playing on a piano-like keyboard [2]. The keyboard for Visic would use a musical instrument digital interface (MIDI) that permits a multitude of switching inputs, with the keys grouped to facilitate playing Visic. Visic would employ traditional piano-music notation, thus enabling anyone trained to read piano music to immediately sit down and "play" Visic.

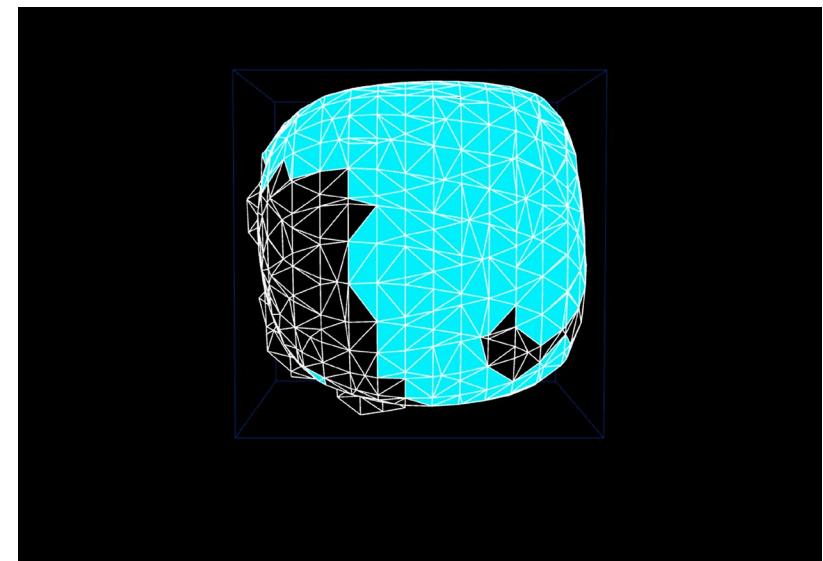
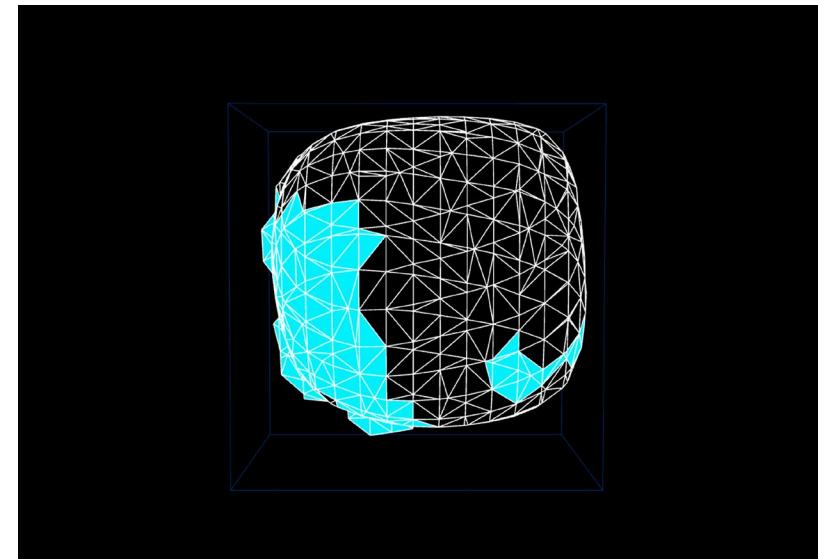


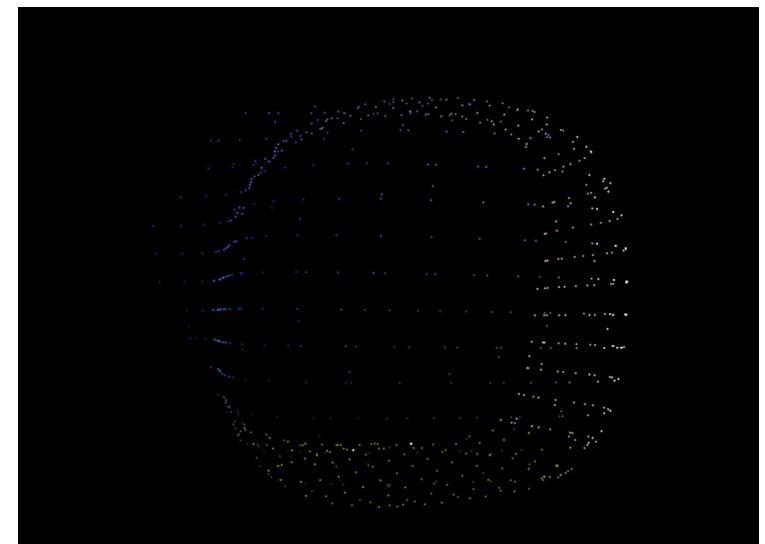
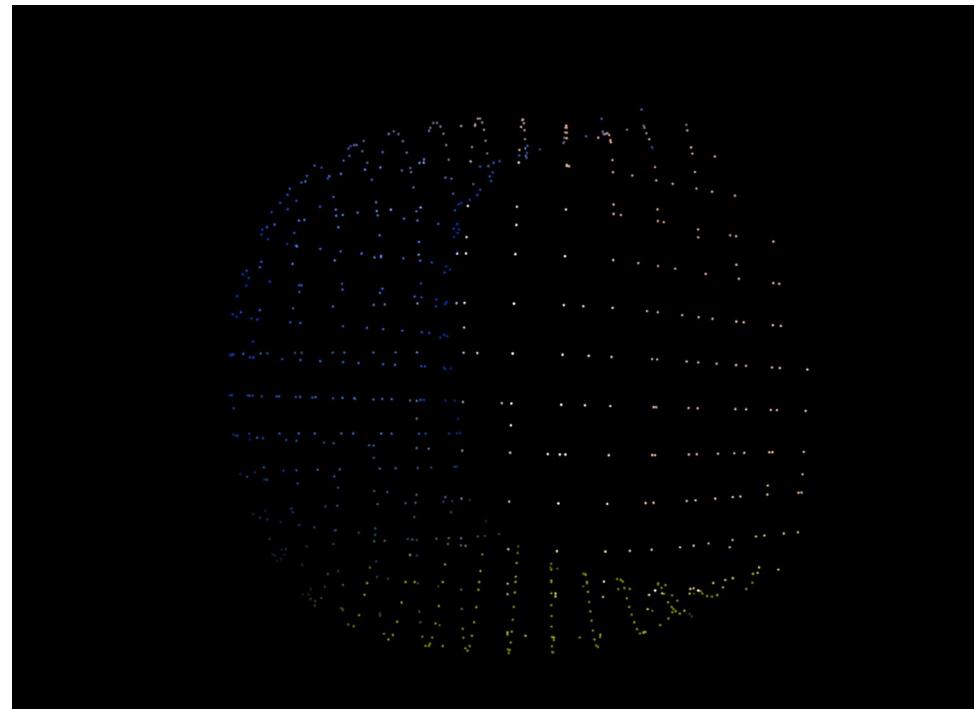
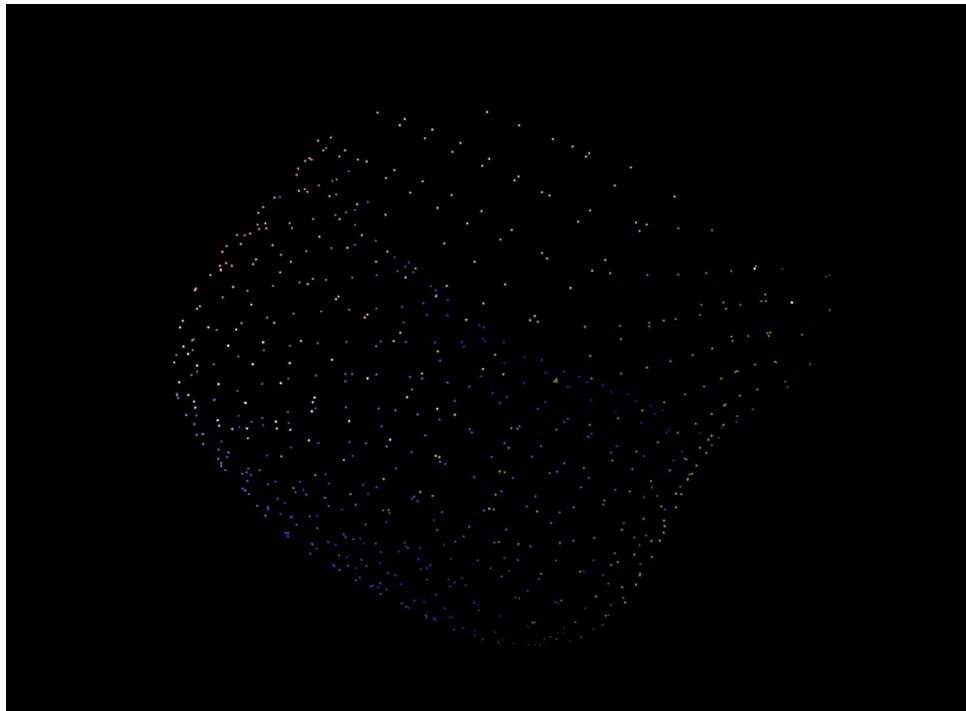






Color(s)	White, Black, Green
Object Size	2in.
Weight	11gm
Material(s)	Plastic
Polygon Count	89 polygons
Polygon Sections	3 sections
Image Size	1.1mb





*CALCULATION OF THE
ODDS OF THROWING
ANY SPECIFIED NUM-
BER WITH TWO, THREE,
FOUR, OR MORE DICE*

*Author(s): GEO. SCOTT
Source: The Assurance
Magazine, and Journal of the
Institute of Actuaries, Vol. 4,
No. 3
(1854), pp. 247-249*

*Published by: Cambridge
University Press on behalf of
the Institute and Faculty of
Actuaries*

Stable URL: <http://www.jstor.org/stable/41134618>

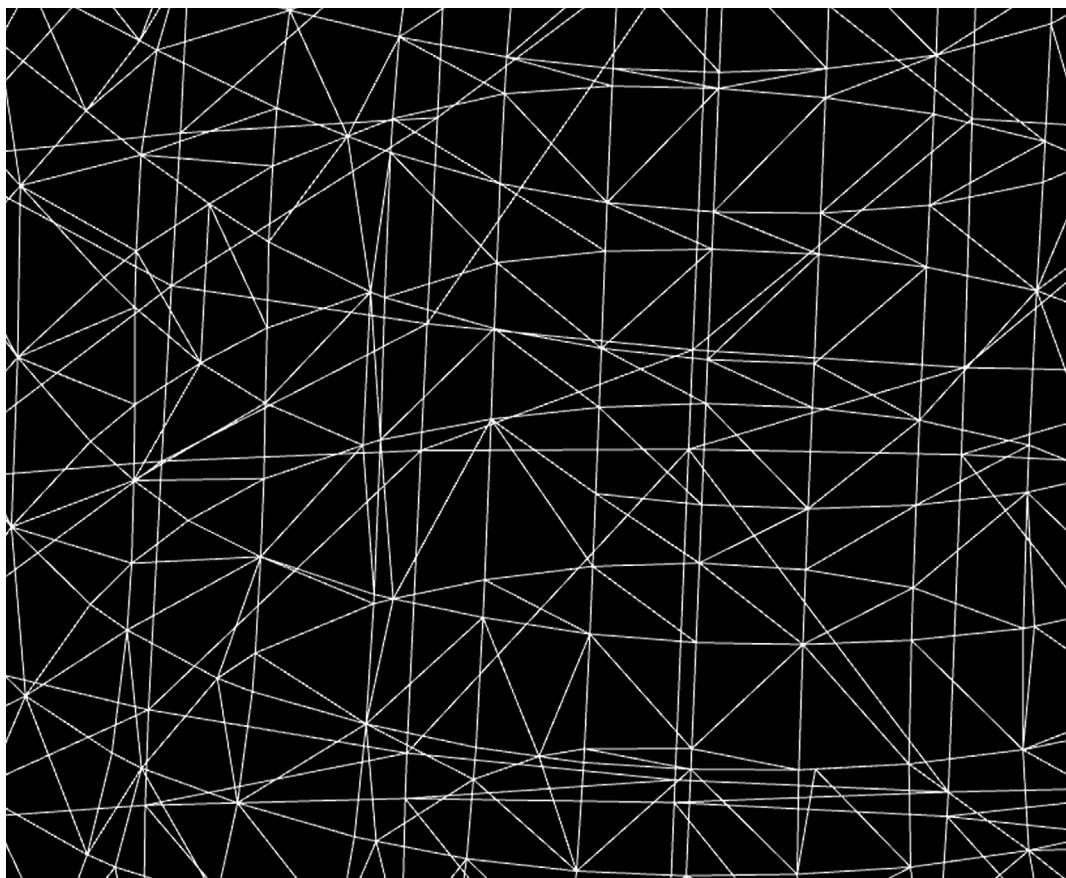
*Accessed: 19-02-2017 23:00
UTC*

" Now, calculation on Mr. Milne's hypothesis gives that B in the subsequent agreement pays A, at the expiration of the first half year, £102. 10s., and that A then lends to C £102. 10s., at £2. 10s. per cent, interest for the half year, which is required to complete the whole year : for were he only to lend him £100, A would leave £2. 10s. lying idle; and consequently, at the expiration of the year from the original term, C will have to pay A £105. Is. 3c?, being Is. 3d. beyond the legal interest for which the action is brought against B.

But on D'Alembert's hypothesis, B will have had only to pay at the expiration of the first half year $\text{£}100 \times 1.05$; and C afterwards, for the continuance of the loan to him, and for which B is bound, $100 \times 1.05^2 = \text{£}105$. Should these remarks tend to lessen the difficulty attaching to the case, I should be glad; but if I should be required to reply to objections which may be made to them, I feel that I should be obliged to decline doing so, and will hope that I should not be thought discourteous on that account.

Sir, - Some persons have supposed that the doctrine of probability rather fosters than discourages habits of gambling. No doubt the error of such a supposition arises from the known facility with which its principles can be applied to games at cards and dice. It has, however, been employed to expose the nefarious practices of many, who have developed very alluring though dishonest and fatal schemes for realizing money; and through the authority and influence of your Journal, the science of probability might be turned to some account in exposing those pernicious practices that are of nightly occurrence in many establishments in London, especially at the West End.

The uninitiated and unwary, who seek amusement in these dens of infamy, might at all events be put on their guard, by having in their possession the true odds in every case where betting is resorted to on games of chance; and at the same time the usefulness and importance of your Magazine would be considerably augmented. With this view I have made the following calculations; and at a future time, I may direct my attention to other forms and shapes under which this insidious and dangerous practice presents itself. When the throwing is with two dice, that are homogeneous and dynamically accurate (which is never the case in gambling houses), the probability of throwing either of the numbers



2
8 or 11 is - ; the odds against are 17 to 1 ob

Q

4 or 10 is - „ „ 11 to 1
5 or 9 is - - ; the odds against are 8 to 1

6 or 8 is - „ „ 31 to 5

OD

7 is - „ „ 5 to 1

When the throwing is with three dice, the probability of throwing either of the numbers

Q

4 or 17 is ttt-t; the odds against are 71 to 1 216

/»

5 °r 16 iS 216 “ “ 35 t0 *

6 or 15 is - - „ „ 103 to 5

{:lo

15

7 or 14 is - „ „ 67 to 5

21

8 °r 13 iS 216 “ “ 65 t0 7

25

9 or 12 is - ■ „ „ 191 to 25

27

10 or 11 is - „ „ 7 to 1

When the throwing is with four dice, the probability of throwing either of the numbers

4

5 or 23 is ; the odds against are 323 to 1

6 °r 22 iS 1296 » “ 643 t0 5

20

7 or 21 is j^ „ „ 319 to 5

35

8 or 20 is - „ „ 1261 to 35

en

9 °r 19 iS 1296 “ “ 155 t0 7

80

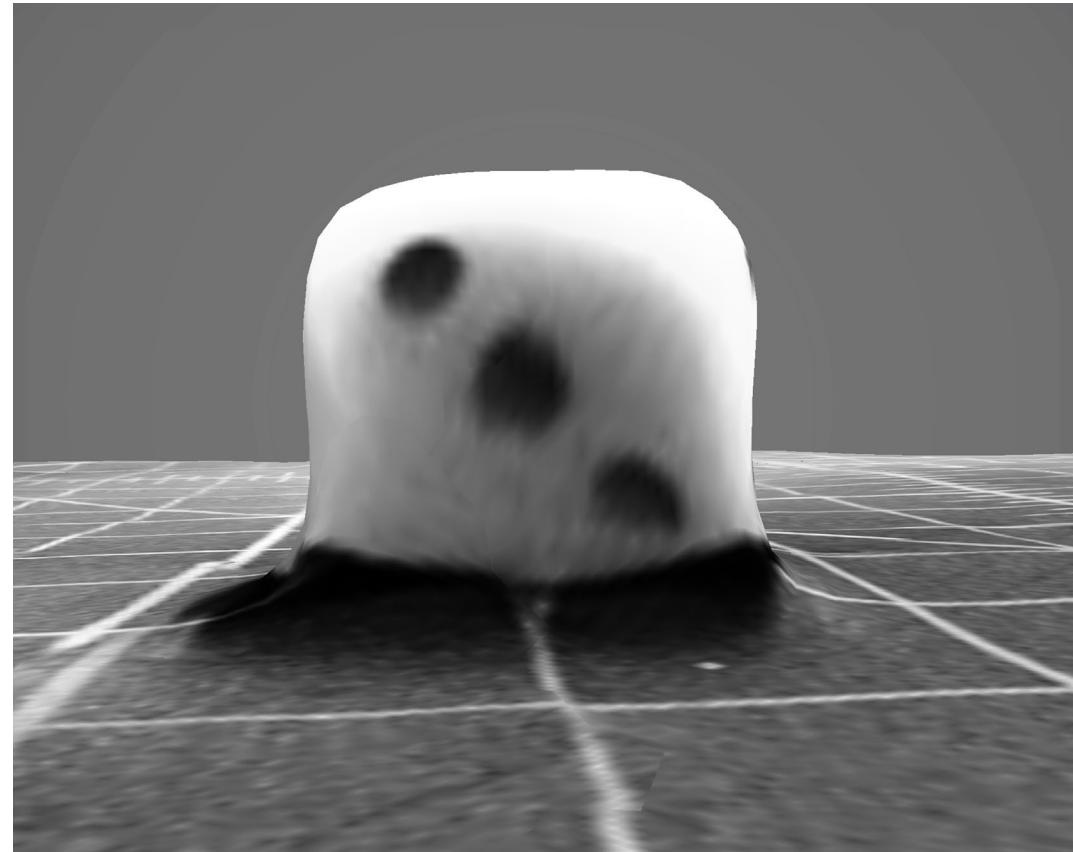
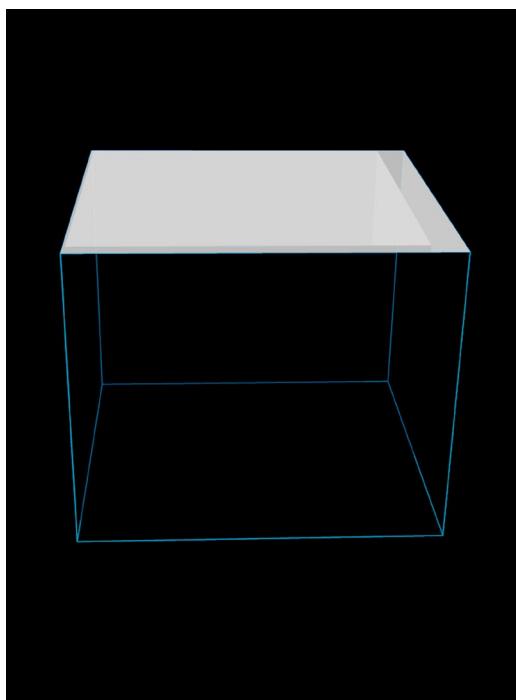
10 or 18 is ~ „ „ 76 to 5

In the preceding calculations, I have used the following well known process:
If p denote the number of dice, n any particular number to be thrown, then
6p=the whole number of combinations; and the different ways in which
n can be thrown is the number of combinations in which a -f- b -f- c -f-
&c. p terms can be made equal to n ; the several numbers from 1 to 6 being
successively substituted for a, b, c, &c. This will be the same as if we raise
 $(x - x_1 - \{ - x_2 - \dots - x_p - \%6)$ to the pth power, and determine the
coefficient of x^n , which may readily be done as follows: - $(x + x^2 + V I - x I$
giving to p any of the values 2, 3, 4, &c, and expanding and performing the
multiplication. Any coefficient in the resulting product, divided by 6P, will
denote the probability of throwing the number which is the index of .r, the
term to which the coefficient belongs.

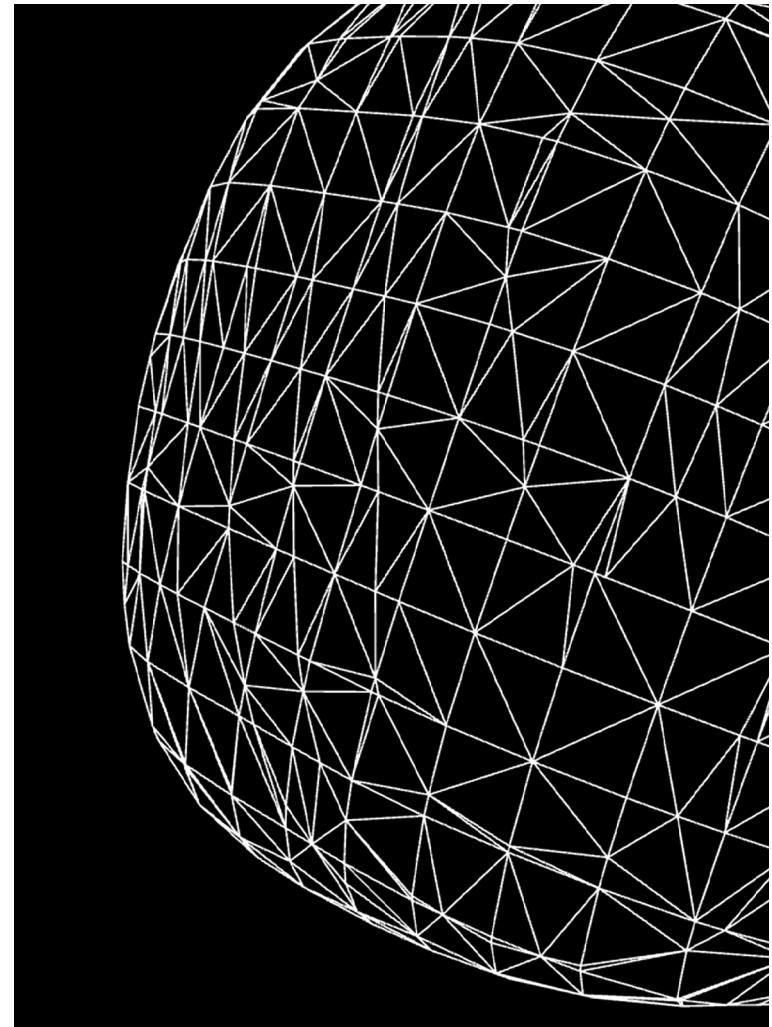
Your obedient Servant,
GEO. SCOTT, A.I.A.



8

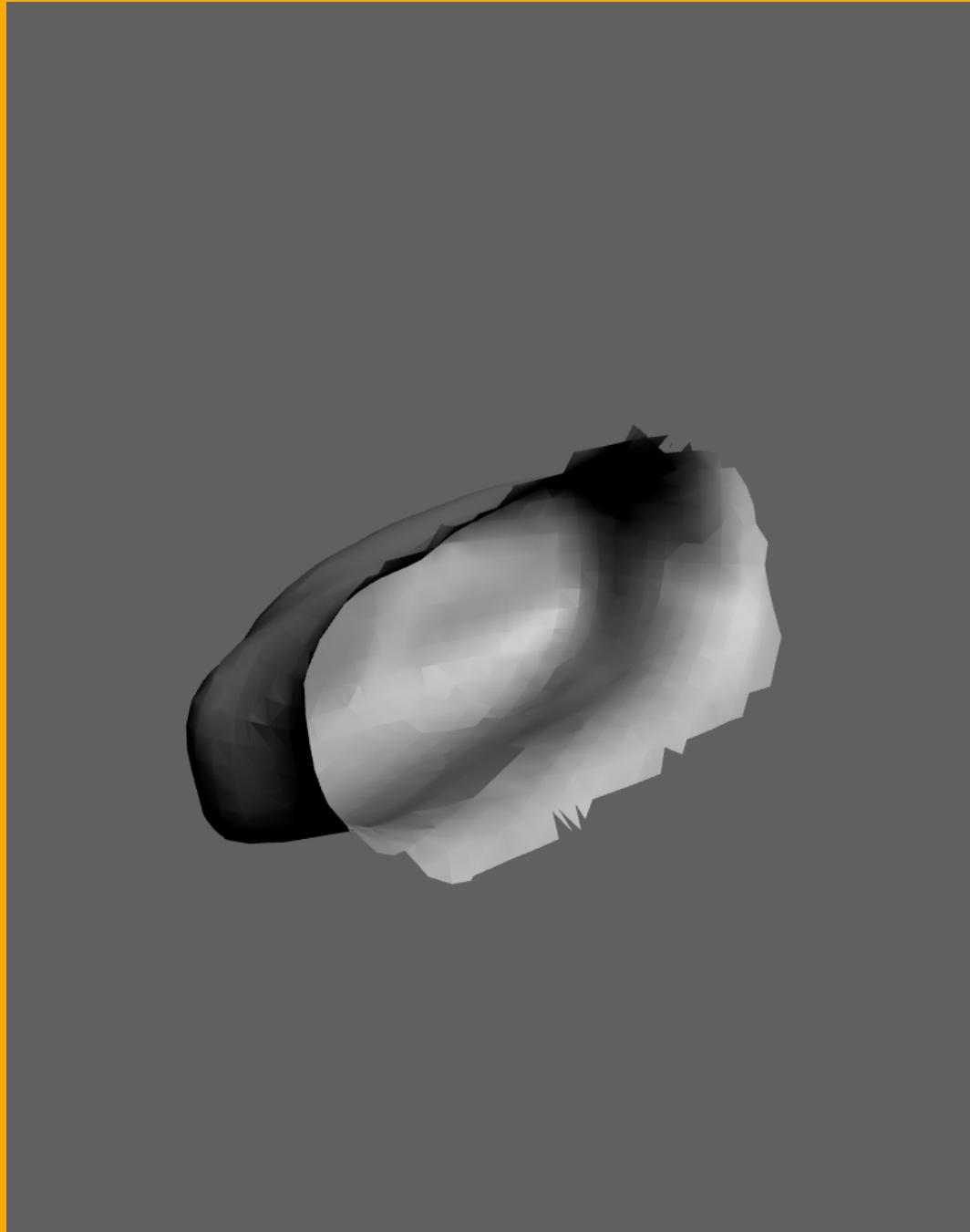
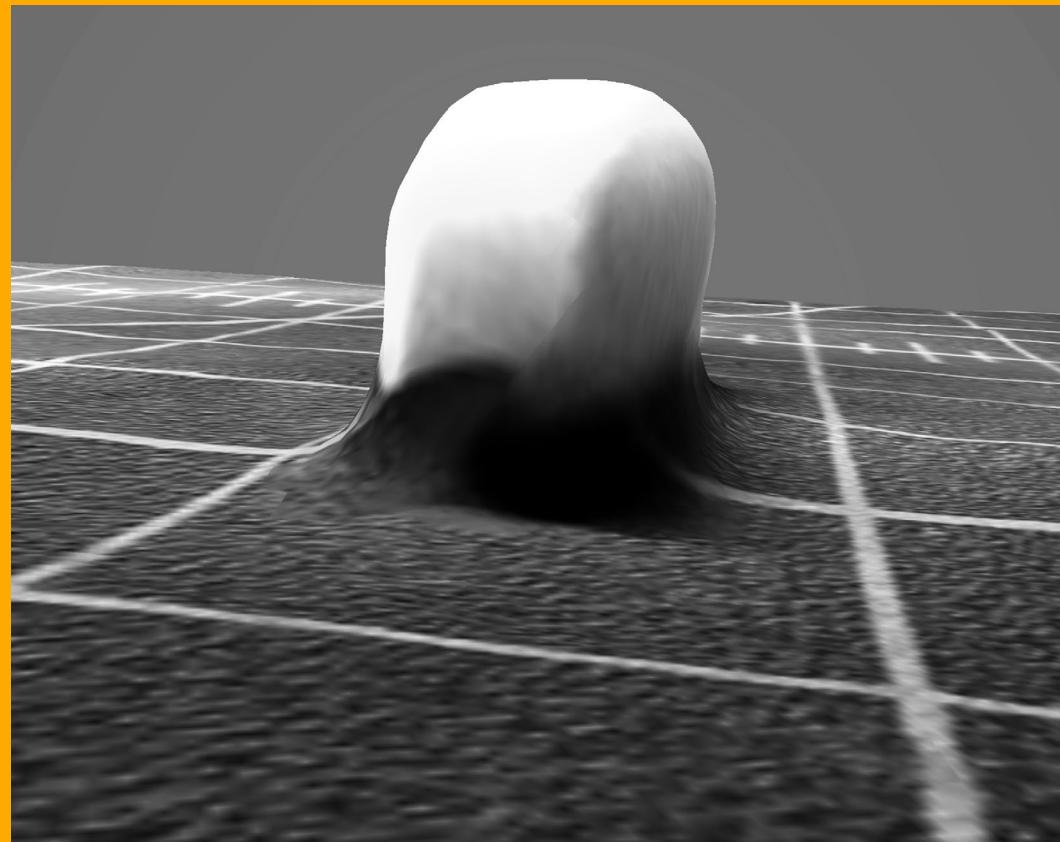


Sir, - To ascertain the sum which a Society may safely appropriate as a bonus being one of the most momentous problems that can fall within the scope of an actuary's duties, I may perhaps be permitted to offer a few observations on the subject. I will suppose, then, that a mutual Society has been in existence five years, and that the amount of pure divisible surplus is sought, with a view to the declaration of a bonus. After payment of the preliminary expenses, or those attendant upon the formation of the Society, the cost of management, and the claims on account of deaths, the sum s remains to credit of the Company. The present value of the future gross and net premiums on the existing policies = V and v respectively, that of the policies themselves being v . The working expenses hitherto average e per annum; and n policies on an equality have been issued yearly. Now $V - v + s$ cannot be called actual surplus, since no allowance is made for future expenses, which must necessarily be incurred before the profits on the future premiums (of which $V - v$ is the present value) can be realized. To estimate this important deduction, we can but proceed upon the experience of the past; if therefore A be the net premiums receivable annually on the policies issued, a will denote the average number of years these policies have to run, and ve the working expenses during such period = $-$. Now we may reasonably assume, if nothing be known to the contrary, that in this time $-^A$ new policies will be granted, so that the fair proportion of the sum.

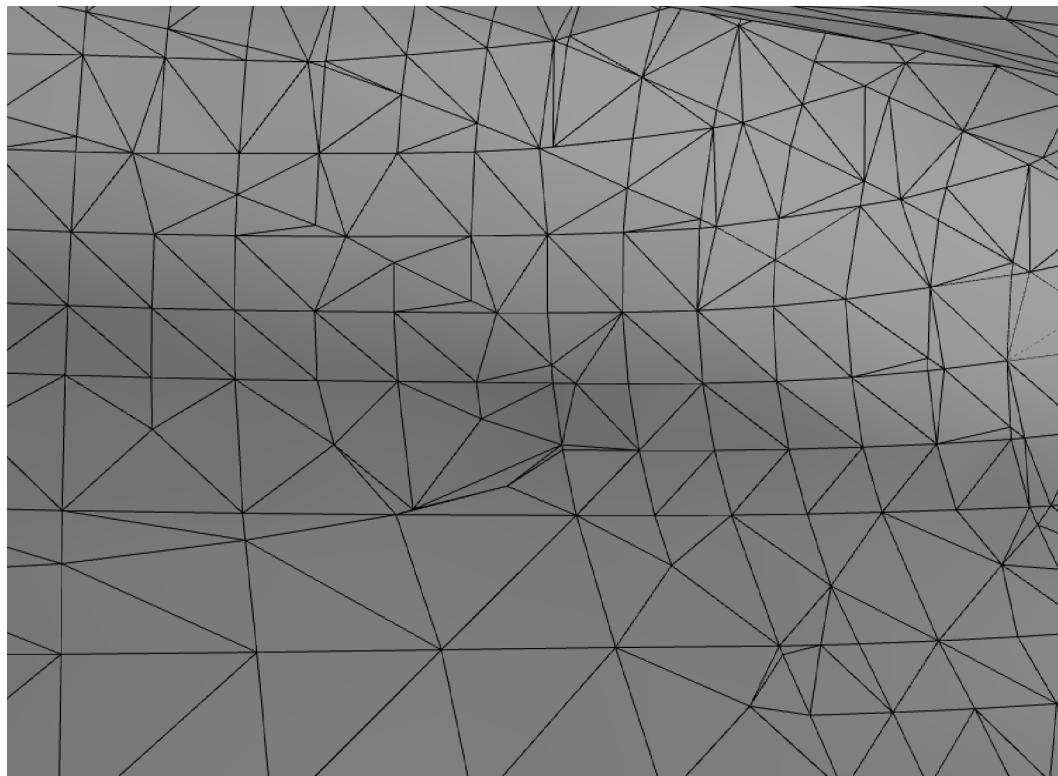


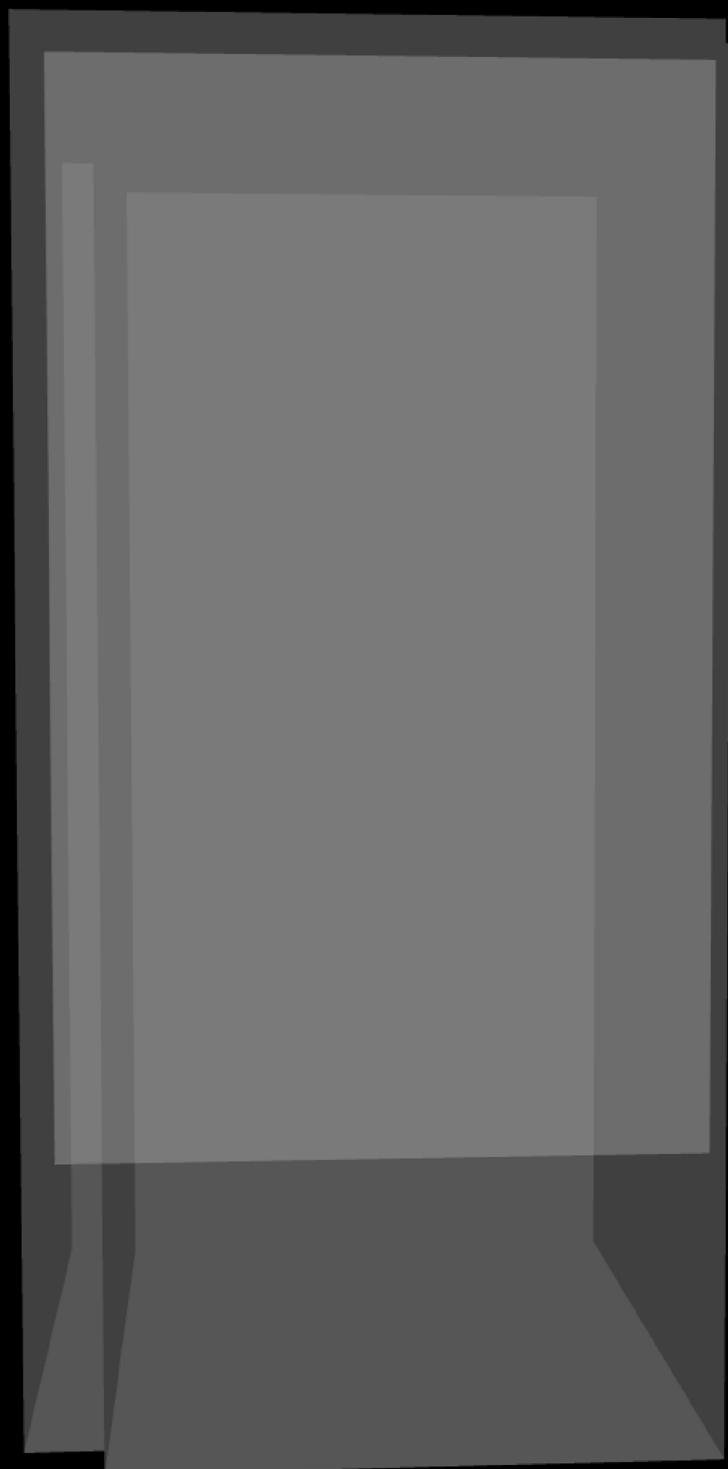
9

CAPSULE ← → VITAMIN C PILL



Color(s)	Light Orange
Object Height	2in
Material(s)	Vitamin C
Polygon Count	258 polygons
Polygon Sections	1 sections
Image Size	2.7mb





Encapsulating the Present Material Decay, Labor Unrest, and the Prehistory of the Time Capsule, 1876–1914

Author(s): Nick Yablon
Source: *Winterthur Portfolio*, Vol. 45, No. 1 (Spring 2011), pp. 1–28

Published by: The University of Chicago Press on behalf of the Henry Francis du Pont Winterthur Museum, Inc.

Stable URL: <http://www.jstor.org/stable/10.1086/658932>

Accessed: 20-02-2017 01:07 UTC

IN A PRESIDENCY tainted by economic troubles, military defeat, and a controversial pardon, one of Gerald Ford's relatively happier moments was his officiation of the American bicentennial celebration. In 1976, he spent the July 4 weekend performing all the usual ceremonial duties: bell ringing, ribbon cutting, speechmaking. But he also performed an entirely new kind of ceremony: the opening of a time capsule. The large iron bank safe that stood before him in National Statuary Hall of the U.S. Capitol on July 1 had traversed a tortuous journey across time. Just months after it was sealed on Washington's birthday, February 22, 1879, it lost its privileged perch in that historic chamber (where an enterprising African American janitor earned money on the side by exhibiting it to tourists) and was banished first to a less prestigious hallway and then to a remote spot beneath the steps of the east entrance.

1 There, exposure to the elements caused it to grow rusty and pock-marked until it was finally relocated to a dusty storage closet off the crypt. With the bicentennial approaching, efforts were made to locate the missing keys, which eventually turned up in Gainesville, Florida—at which point the safe became embroiled in legal difficulties, as the Floridian claimed ownership by virtue of his possession of the key. The passage of a resolution declaring it the property of the United States, along with the application of a fresh coat of paint, had resolved all this by the time Ford arrived in Statuary Hall.

2 But it remained to be seen what exactly was inside the safe; various legends had circulated about it containing a million dollars in gold, a human skeleton, or a long-lost original version of the Liberty Bell.

3 Before turning the key, Ford uttered a brief disclaimer. "There is no safe big enough," he warned the assembled members of Congress and other dignitaries, "to contain the hopes, the energies, the abilities of our people." And indeed the prosaic contents—an inkstand, a scroll, an autograph and photograph album, and various miscellanea—proved "rather a disappointment for those present". To revive the audience's enthusiasm, Ford allegedly seized a photograph and held it up as a portrait of "an early statesman." When told it was merely an electoral commissioner, he reportedly complained: "They all seem to get their picture in."

4 The unlocking of the "Century Safe" was merely one instance of what the New York Times identified as a "new rage" for time capsules that "swept" across the country in 1976. Three months earlier, the elected officials of Ramapo, New York, had already claimed the honor of being the first to open a time capsule, a granite casket also launched in 1876, while three days later the selectmen of Sandwich, Massachusetts, opened a wooden box that had been deposited for ninety-two years in 1884. Their modest contents—coins, stamps, and local artifacts—contrasted radically with the specimens of material culture deposited in hundreds of new time capsules that year. These

items ranged from a teflon frying pan and a pair of bikinis to a brand-new Chevy Vega coupe, buried in a Nebraska front yard.

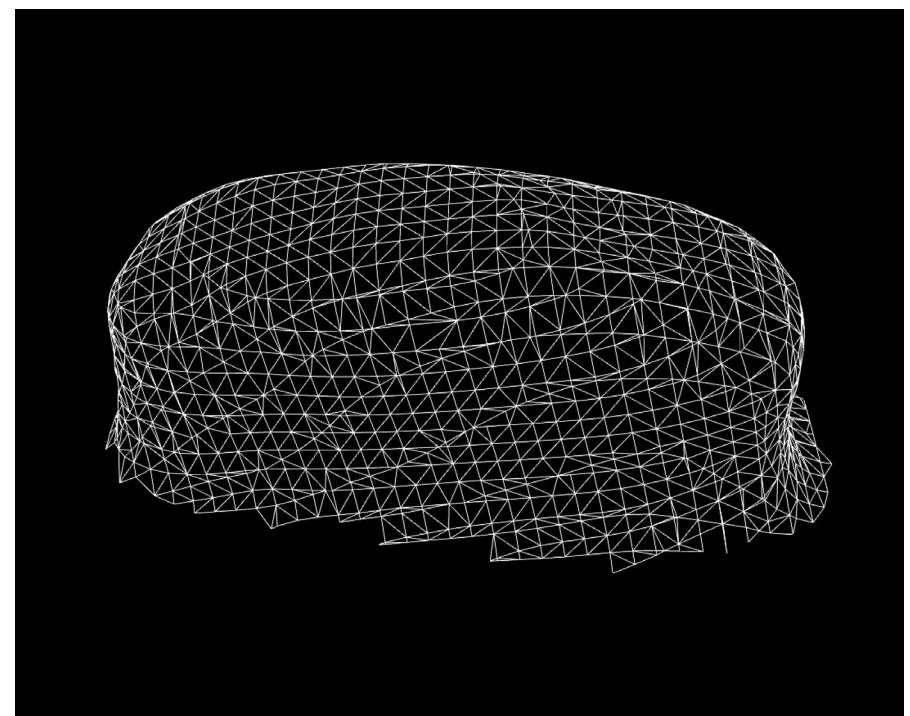
5 The frequency of time capsule deposits at the time of important anniversaries (of the nation or of states and cities) and at the turn of centuries (most recently, the millennium) might lead us to conclude that they operate merely as commemorative objects, providing an occasion for patriotic selfcongratulation and momentary political consensus. And their appearance at world's fairs—such as the New York World's Fair of 1939, where Westinghouse introduced the very term "time capsule"—might prompt similar conclusions about their role as simple showcases of new technologies.

6 This article, however, will attempt to restore a sense of the political contentiousness of the time capsule by tracing its genealogy back to the class conflicts of the Gilded Age, when as many as eleven were launched.

Nick Yablon is an associate professor of American Studies at the University of Iowa. He is the author of *Untimely Ruins: An Archaeology of American Urban Modernity, 1819–1919* (Chicago: University of Chicago Press, 2009) and is currently writing a history of the Gilded Age based on materials deposited in time capsules. A draft of this article was presented at a University of Chicago symposium celebrating Neil Harris's retirement, and the finished work is dedicated to him.

The author thanks Kim Marra and Paula Amad for their invaluable readings of this early draft and Amy Earls and the two anonymous readers for *Winterthur Portfolio* for their insightful suggestions for revision. University of Iowa graduate students Steven Williams and Erica Stein provided research assistance.

The author is also indebted to the following archivists and research librarians: Barbara Wolanin and her assistants, Pam McConnell and Andria Field (Office of the Curator, Architect of the Capitol); Lesley Martin (Chicago History Museum); and Jessy Randall (Colorado College Special Collections). B 211 by The Henry Francis du Pont Winterthur Museum, Inc. All rights reserved. 0084-0416/2011/4501-0001\$10.00



The earliest time capsules—or “time vessels” as I shall call them, as they were deposited above ground in chests, lead boxes, or bank safes, rather than buried below ground in torpedo-shaped canisters—were conceived amid the incipient labor unrest of the late 1870s as shrines or memorials to the commercial elite.

7 As labor unrest escalated toward the turn of the century, these time vessels developed into more systematic and collaborative projects that undertook to encapsulate the nation (or city) as a whole, in the process exposing themselves to the testimony of union members. They also diversified to include the nation’s material culture along with its visual and verbal documents, its everyday life along with its celebrated events, its failings along with its accomplishments. The backdrop of labor unrest would leave its mark not only on the contents of these time vessels but also on their form. It is possible to gauge the growing fears of some kind of impending class apocalypse from the changing specifications regarding the intended recipient, the time span, the safeguards against oblivion, and the precise rationale for using modern media such as photography, phonography, and cinematography. Moreover, far from precipitating moments of consensus and cohesion, time vessels themselves attracted controversy and criticism. Sometimes this criticism was direct, voiced in the press or in acts of rejection, such as the removal of the Century Safe. But it was also expressed indirectly, through fictional narratives that predicted the failure of time vessels to transmit anything of value to the future. By adopting the postapocalyptic perspective from the emergent genre of science fiction, certain writers raised questions about the epistemological soundness of such enterprises. If human civilization were to undergo such upheaval that time vessels become precious links to the forgotten past, how can one remain confident that knowledge of their existence and location—or indeed of the very concept of a time capsule as an assortment of objects intended to stand in metonymically for a larger whole—would also survive? Going beyond the rhetoric of civic memorialization, authors such as Mark Twain and George Allan England suggested that the archaeological value of a time vessel was in fact predicated on a certain degree of forgetting: the forgetting of other objects (through the destruction of libraries), of history, and indeed of itself.

These potential contradictions may not have gone entirely unnoticed by the architects of time vessels. It was this double bind of forgetting and remembering that arguably led them to seek a balance between concealment and display. The time vessel was a cultural hybrid: a product both of new techniques for secreting precious objects developed by banks and archival preservationists and of a culture of exhibition then emerging out of department stores, museums, and world’s fairs.

8 Embalming the Elite If the birth of the time vessel was announced at a world’s fair—not the New York World’s Fair of 1939 but the Philadelphia Centennial Exposition of 1876—it was evidently a twin birth. In Memorial Hall, the New York magazine publisher and Civil War widow Anna Deihm (known as Mrs. C. F. Deihm) exhibited her Century Safe, the vessel that Ford would open a century later, while in the neighboring Art Building, the Chicago portrait photographer Charles D. Mosher was exhibiting his own collection of cabinet photographs, the embryo of what became his “Memorial Safe,” also intended for opening at the bicentennial (figs. 3–4).⁹ There was some divergence in their priorities, with Deihm seeking to memorialize “statesmen, jurists, legislators, orators, clergymen, poets, scientists, historians, and merchants” from across the nation, whereas Mosher limited his collection (at least initially) to the political, financial, and religious elite of his adopted city of Chicago.

10 Yet the two projects shared a common emphasis on display that was emblematic of the larger “exhibitionary complex” of the fair. Both were considered successful as exhibits, Deihm’s reputedly “attract[ing] ... much attention,” and Mosher’s winning first prize for “excellence in art photography.”

11 Deihm’s safe in particular, with its iron doors opened but its contents locked behind an inner door of plate glass, resembled exhibits in the Main Building, where commodities were fetishistically enshrined in glass display cabinets using techniques that both drew on and influenced those of department stores and museums.

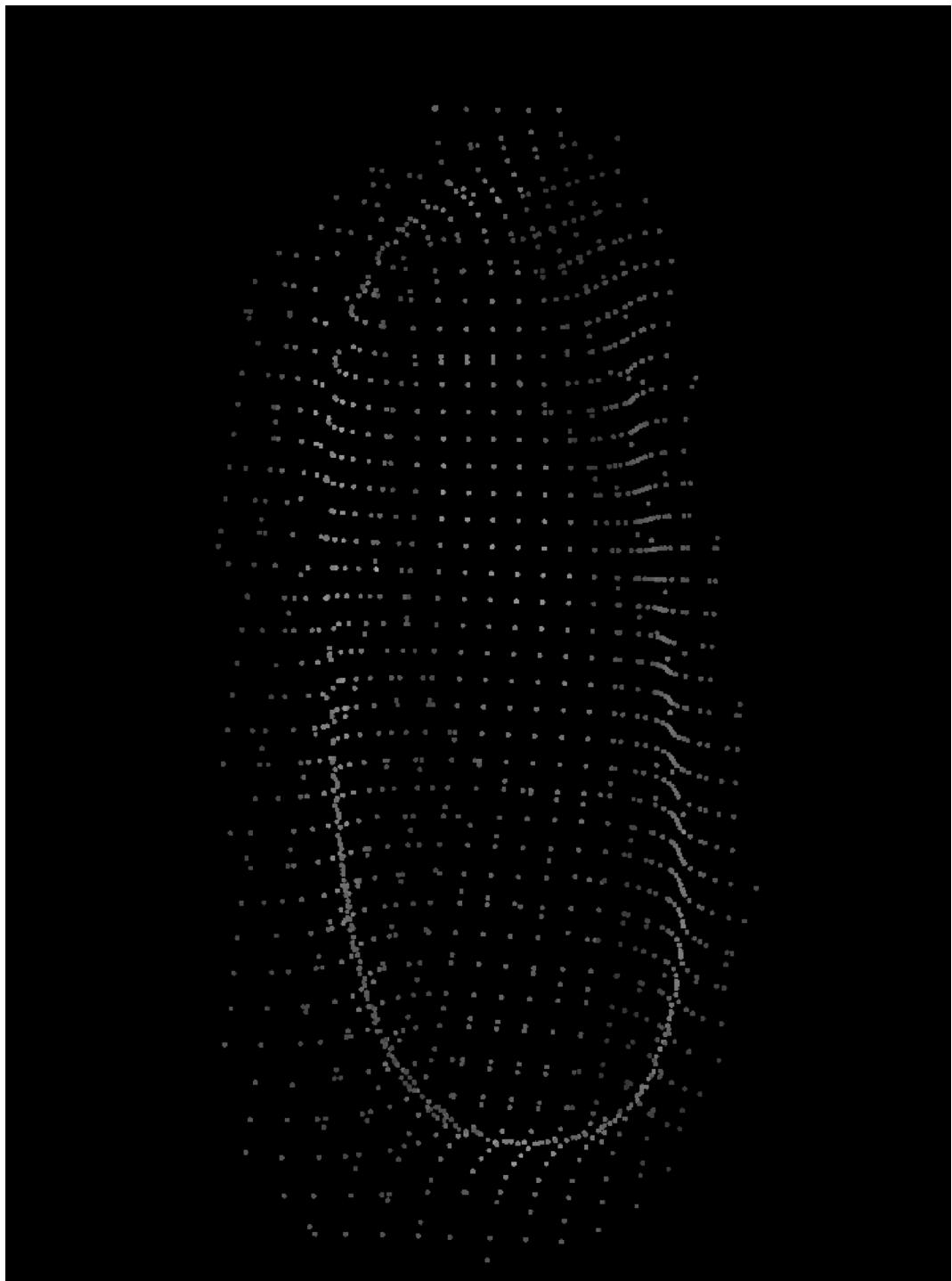
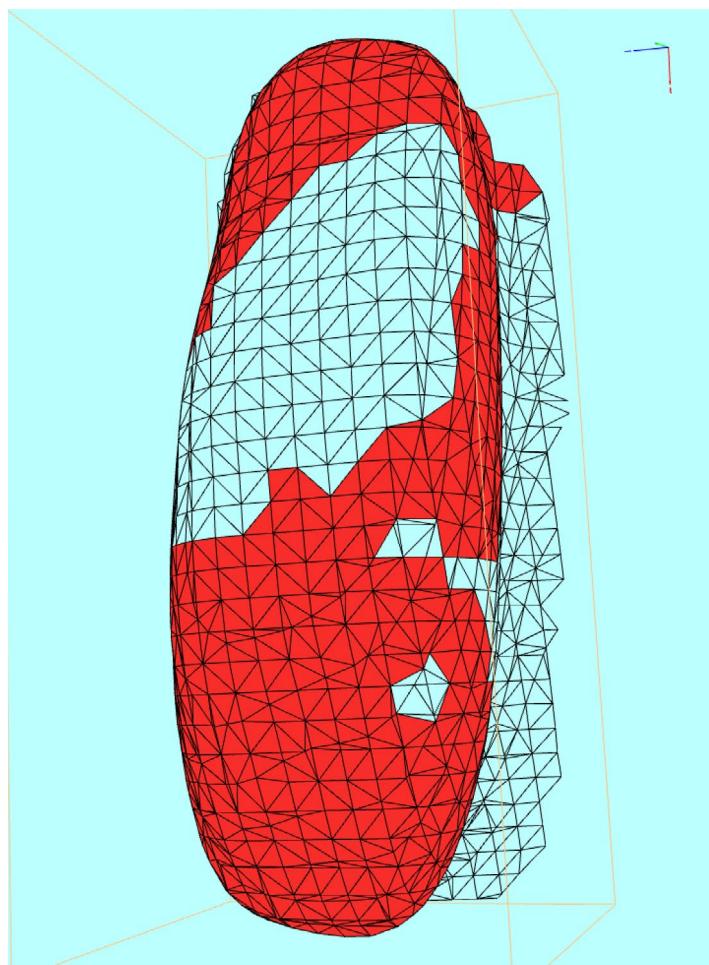
12 Not merely a display case, the safe was to be an object of display in its own right, richly decorated with presidential portraits and gilt lettering, lined with royal purple velvet, and topped off with an ornate pediment. Like the silver inkstand specially made and engraved by Tiffany and Company and the patented photograph album contributed by W. W. Harding, the safe functioned as an advertising tie-in for its American manufacturer, the Marvin Safe Company, whose products Deihm promoted for their “security and excellence of design.”

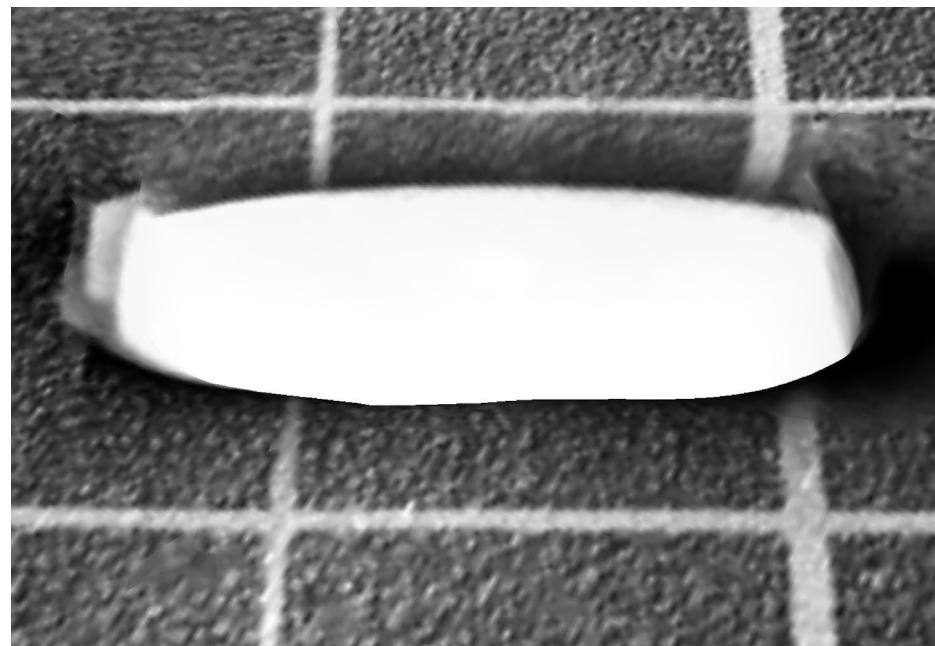
13 This emphasis on display did not end with the closure of the fair. Postponing the final sealing,

¹ Although various groups—most notably the People’s Bicentennial Commission—protested the official celebrations, Ford celebrated the “new spirit” evident that summer as a counterpoint to the ordeals of Watergate and Vietnam; “Presidential Campaign Debate of October 22, 1976,” in *Public Papers of the Presidents of the United States*:

Gerald R. Ford (Washington, DC: Government Printing Office [hereafter GPO], 1979), 2626. On the “very reliable colored man” who acted as custodian of the safe while it was in Statuary Hall, see letter from Charles E. Fairman, Art Curator, U.S. Capitol, to Norma Ludlam, October 17, 1936, in *Centennial Safe—Correspondence folder, Art and Reference Files* (hereafter A&RF), Office of the Curator, Architect of the Capitol (hereafter AOC).

Senator Justin Morrill (who had proposed the creation of Statuary Hall in 1864) presented a resolution calling for an investigation into how Statuary Hall had come to be used for exhibits other than statues in *Senate Journal*, 45th Cong., 3rd sess., February 22, 1879, 345.





Deihm exhibited her safe in Marvin's New York offices for three more years while she toured the country collecting additional signatures.

14 Meanwhile, Mosher kept his on display in his photographic gallery as a "monument to his own enterprise and generosity" before installing it in a hallway of Chicago's City Hall in 1885 and finally sealing it in 1889.

15 Even after the official sealing, they intended their safes to be kept in the public eye. Deihm envisaged the Century Safe as a permanent tourist attraction, placed behind a protective cordon but with the iron doors opened to reveal its contents to generations of visitors to the Capitol. Both she and Mosher also called for periodic ceremonies to record the names and images of newly elected officials and, in the latter's case, a memorial ceremony to mark the passing of each quarter century (fig. 6).

16 Unlike twentieth-century time capsule projects, there were no efforts to keep these vessels fully sealed, or their contents concealed, until their target date. Deihm and Mosher were not, of course, the first to sequester objects for posterity. As cultural historian Neil Harris has shown in his book on the various rites that have marked the life cycle of buildings, the search for new civic ceremonies and the rise of Freemasonry in the aftermath of the Revolution had prompted Americans to dedicate their new public structures by solemnly depositing a number of symbolic objects and documents in their cornerstones—a practice that they in turn had inherited from the church consecration rituals of medieval Europe.

17 Although cornerstone deposits differ from time capsules insofar as they do not have a predetermined retrieval date and cannot be reopened without damaging or demolishing the building, there were occasional attempts to imagine the scene of their unsealing by future historians and explorers. When the cornerstone of the Mutual Life Insurance Company's new tower in lower Manhattan was laid in 1883, one observer fantasized about a postapocalyptic pilgrim from New Zealand discovering it amid the ruins. With the aid of the two-volume history of New York deposited within it, the New Zealander would be able "to reconstruct in his imagination" that city's past.

