Statement #04 | Markus Hanakam & Roswitha Schuller — PIVOT

Kunstraum Lakeside Januar 2019

Digitaler Reader

Aus der Einleitung __ Emanuele Tesauro: Il Canniochiale Aristotelico, herausgegeben von August Buck (1654, 1970)

Das aristotelische Fernrohr __ Umberto Eco: Die Insel des vorigen Tages (L'isola del giorno prima 1994, dt. 1995)

The History of the Theory of Human Proportions as a Reflection of the History of Styles __ Erwin Panowsky: Meaning in the Visual Arts (1955)

Durch das aristotelische Fernrohr geblickt. Über Denkobjekte und anthropologischen Scharfsinn einer zeitgenössischen Wunderkammer __ Roswitha Schuller in: Im Schwarm der Objekte, katalog zur gleichnamingen Ausstellung (Hg. Traklhaus, 2018)

CANNOCCHIALE; per eſaminar tutte le perfettioni, & le imperfettioni della Eloquenza. Parlando egli dunque di tutta l'Arte Rettorica; laqual molti pur negauano poterciſi' nſegnare, ſenon dalla ſola Madre Natura: [1] diſſe; colui ſicuramente poterne ritrouar l'Arte, ilqual propoſtoſi Componimenti diuerſi: de' quali, ò per caſo, ò per induſtria, ſian' altri buoni, & altri mali; ſappia col ſuo ingegno ſottilmente inueſtigar le ragioni, perche queſti ſian' ottimi, & quegli difettoſi: gli vni mouan nauſea, & gli altri applauſo. Con tali ſperanze adunque, & con la ſola ſcorta di queſto Autore: m'accinſi ancor' aſſai giouine alla inchieſta di sì nobile & ingegnoſa facultà, per aggiugner queſt' vltimo ornamento alle lettere humane; che nel Secol noſtro, da nobili' ngegni della mia Patria; erano ſtate à tanta gloria felicemente inalzate. Compoſi adunque latinamente vn giuſto volume dell'Arte dell'Argutezza: ilqual con le altre mie Rettoriche fatiche ancor ripoſa: & accioche non ti pareſſe diſcreditata l'Arte mia delle Argutezze, dalla inſipidezza de' miei propri Componimenti: feci la medeſima proteſta, che fè il mio Autore; ilqual' inſegnò anch' eſſo ad Orare, ne mai Orò: inſegnò la Poetica, ne mai Poetò: [2] inſegnò le Argutezze, ne mai ne compoſe: diuidendo con Iſocrate queſta gloria; ch'egli ſeppe inſegnare, non praticare: & Iſocrate praticare, non inſegnare.

Hora hauend' io cominciato, alle grandi' nſtanze di molti amici, à permettere ò premettere alle Stampe il ſol Volumetto delle Impreſe, piccola parte dell'Argutezza: mi è dapoi ſtato impoſto da chi è Signor del mio volere; di trattare interamente in Italiano per que' della Corte, le due Piaceuoliſſime Arti, SIMBOLICA, & LAPIDARIA; che comprendono tutte le Argutezze di Parole, & di Figure: quelle negli Epigrammi, Epitaffi, Eloggi, & in ogni genere d'Inſcrittioni Argute: queſte nelle Impreſe, Emblemi, Riuerſi, & in ogni genere di Simbolo Arguto. Laonde mi ſon' io trouato aſtretto di valermi delle proprie fatiche in queſta Tema; replicando molte neceſſarie Notitie dell' ARGVTEZZA: per applicarle alla fabrica de' Simboli, & delle Inſcrittioni; bella e ſpiritoſa Famiglia di sì gran Madre.

1 *Ariſtot. lib. primo Rhetoric. c. 1. Cum liceat cauſam intueri cur & qui ex vſu, & qui fortuitò, quod volunt aſſequantur, hoc ipſum iam Artis Opus eſt.*

2 *Ar. 3. Rhet. c. 10. Arguta & Vrbana dicta formare, ingenioſi eſt Hominis, vel exercitati; viam autem, & rationem eorū tradere: doctrina huius eſt.*

Ars poetica

Texte und Studien zur Dichtungslehre und Dichtkunst

Herausgegeben von

August Buck, Heinrich Lausberg, Wolfram Mauser

Texte, Band 5

Emanuele Tesauro: Il Cannocchiale Aristotelico

Verlag Gehlen · Bad Homburg v. d. H. · Berlin · Zürich

Emanuele Tesauro

IL CANNOCCHIALE ARISTOTELICO

Herausgegeben und eingeleitet

von

August Buck

Verlag Gehlen · Bad Homburg v. d. H. · Berlin · Zürich

gerten Stadt zu gewähren, um Kontakt aufzunehmen und Verhandlungen zu führen, so wie umgekehrt auch Saletta freien Zugang zum Lager Spinolas hatte.

Pater Emanuele sagte, er sei gerade im Begriff, den Besuchern seine Aristotelische Maschine zu zeigen, woraufhin er sie alle drei in einen Raum führte, in dem sich das sonderbarste Möbel befand, das man sich vorstellen kann – und ich bin nicht sicher, ob ich seine Form exakt aus der Beschreibung rekonstruiere, die Roberto seiner Signora davon gibt, denn zweifellos handelte es sich um etwas, das er weder vorher noch nachher jemals gesehen hatte.

Der untere Teil bestand aus einer Kommode, in deren Vorderseite einundachtzig Schubladen eingelassen waren – neun waagrechte Reihen auf neun senkrechte, jede Reihe oben und an der Seite, wie bei einem Schachbrett, beschriftet mit einem Buchstaben in der Abfolge BCDEFGHIK. Oben auf der Kommode stand links ein Lesepult, auf dem ein großes Buch lag, eine aufgeschlagene Handschrift mit kolorierten Initialen. Rechts neben dem Pult befanden sich drei ineinandergesteckte zylinderförmige Walzen von abnehmender Länge und zunehmendem Umfang (wobei die kürzeste die geräumigste war, so daß sie die beiden längeren in sich aufnehmen konnte), die mit einer rechts angebrachten Kurbel so gedreht werden konnten, daß sie sich aufgrund des Trägheitseffektes mit unterschiedlicher Geschwindigkeit je nach ihrer Schwere ineinander drehten. Jede Walze trug am linken Ende die gleichen neun Buchstaben eingraviert, die auch die Schubladen bezeichneten. Es genügte, die Kurbel einmal zu drehen, und die Walzen setzten sich unabhängig voneinander in Bewegung, und wenn sie wieder zum Stillstand gekommen waren, konnte man Triaden von zufällig zusammengestellten Buchstaben lesen, CBD, KFE oder BGH.

Pater Emanuele begann das Prinzip zu erklären, das seine Maschine beherrschte.

»Wie uns Der Philosoph gelehrt hat, ist Ingenium nichts anderes als das Vermögen, die Objecta unter Zehn Kategorien zu durchdringen, als da wären Substantia, Quantitas, Qualitas, Relatio, Actio, Passio, Situs, Tempus, Locus & Habitus. Die Substantiae sind das wahre Subjectum jedes Scharfen Gedankens, und von ihnen müssen sich die Ingeni-

ösen Ähnlichkeiten prädizieren lassen. Welches die Substantiae sind, ist in diesem Buche unter dem Buchstaben A angegeben, und es würde wohl mein ganzes Leben nicht genügen, sie alle vollständig aufzuzählen. Gleichwohl habe ich schon einige Tausend versammelt, die ich den Büchern der Dichter und der Gelehrten entnommen, auch dem bewundernswerten Wörterverzeichnis ›Die Fabrik der Welt‹ von Francesco Alunno. So setzen wir bei den Substantiae unter den Allerhöchsten Gott zunächst die Göttlichen Personen, dann die Ideen, die Fabelgötter, die größeren, mittleren & kleinen, die Himmlischen Götter, die Götter der Luft, des Meeres, der Erde & der Hölle, die vergöttlichten Heroen, die Engel, die Dämonen, die Irrlichter, den Himmel & die Wandersterne, die Himmelszeichen & die Sternbilder, den Tierkreis, die Zirkel & Sphären, die Elemente, die Dämpfe, die Exhalationen – und ferner, um nicht alles aufzuzählen, die Unterirdischen Feuer & Funken, die Meteore, die Meere, die Flüsse, die Quellen & Seen, die Klippen … Und so weiter durch die Künstlichen Substantiae, mit den Werken einer jeglichen Kunst, als da wären Bücher, Federn, Tinten, Globen, Zirkel, Winkelmaße, Paläste, Tempel & Hütten, Schilde, Schwerter, Trommeln, Gemälde, Pinsel, Statuen, Äxte & Sägen, schließlich die Metaphysischen Substanzen wie die Gattung, die Art, das Eigene & das Zufällige & dergleichen Begriffe mehr.«

Dann wandte er sich den Schubladen seines Möbels zu, zog einige auf und zeigte, daß jede einen Stoß quadratischer Bögen aus sehr dickem Pergament enthielt, wie man es zum Buchbinden verwendet, die in alphabetischer Ordnung gestapelt waren: »Ihr müßt wissen, jede senkrechte Reihe, von B bis K, bezieht sich auf eine der neun anderen Kategorien, & für jede von ihnen enthält jede der neun Schubladen Familien von Membra. Um ein Beispiel zu geben: Bei der Quantitas haben wir die Familie der Massenmenge, deren Membra sind das Kleine, das Große, das Lange, das Kurze; oder die Familie der Zahlenmenge, deren Membra sind Null, Eins, Zwei & cetera oder Viel & Wenig; oder bei der Qualitas haben wir die Familie der Eigenschaften, die zum Sehen gehören, wie Sichtbar, Unsichtbar, Schön, Häßlich, Hell, Dunkel; oder die zum Riechen gehören, wie Wohlgeruch & Gestank; oder zu

den Leidenschaften, wie Freude & Trauer. Und so geht es weiter für alle Kategorien. Und da jeder Bogen ein Membrum behandelt, sind darauf alle Dinge verzeichnet, die von diesem Membrum abhängen. Klar?«

Alle nickten bewundernd, und der Pater fuhr fort: »Schlagen wir nun aufs Geratewohl das Große Buch der Substantiae auf und suchen wir uns eine beliebige heraus … Hier, ein Zwerg. Was können wir von einem Zwerg sagen, bevor wir mit Witz und Scharfsinn reden?«

»Que es pequeño, picoletto, petit«, schlug Don Gaspar de Salazar vor, »y que es feo, häßlich und mißgestaltet, und ridiculo …«

»Genau«, stimmte Pater Emanuele zu, »aber schon weiß ich nicht, was ich wählen soll, und kann ich sicher sein, daß mir, wenn ich nicht von einem Zwerg hätte reden sollen, sondern, sagen wir, von Korallen, dann auch gleich so charakteristische Züge eingefallen wären? Und außerdem, die Kleinheit hat mit der Quantität zu tun, die Häßlichkeit mit der Qualität, also wo soll ich beginnen? Nein, da halte ich mich lieber an Fortuna, deren Diener meine Zylinder sind. Ich setze sie in Bewegung & erhalte, wie es der Zufall ergibt, die Triade BBB. Das B in der ersten Position ist die Quantitas, das B in der zweiten bringt mich in der Reihe der Quantitas zur Schublade der Masse, und dort, genau am Anfang der unter B aufgeführten Dinge, finde ich den Bogen zum Thema Klein. Und auf diesem Bogen lese ich: Klein ist der Engel, der auf einer Nadelspitze steht, & der Pol als der unbewegliche Punkt auf einer Kugel, & unter den Elementaren Dingen ist klein der Funke, der Wassertropfen & der Steinsplitter & das Atom, aus dem sich, Demokrit zufolge, alle Dinge zusammensetzen; bei den Menschlichen Dingen ist es der Embryo, die Pupille, das Sprungbein; bei den Tierischen die Ameise & der Floh, bei den Pflanzen der Zweig, das Senfkorn & der Brotkrümel; bei den Mathematischen Wissenschaften das Minimum Quod Sic, der Buchstabe I, das in Sedezformat gebundene Buch oder das Quentchen der Gewürzhändler; bei der Architektur der Schrein oder der Zapfen, bei den Fabeln der General-Psychapax der Mäuse im Krieg gegen die Frösche & die bei den Ameisen entstandenen Myrmidonen … Aber hören wir hier auf, es genügt mir

schon zu wissen, daß ich den Zwerg Schrein der Natur, Kinder-Püppchen oder Menschen-Krümel nennen könnte. Und wohlgemerkt, wenn ich die Zylinder ein weiteres Mal drehen würde & zum Beispiel, wie hier, CBF erhielte, würde das C mich auf die Qualitas verweisen, das B auf die Membra in der Schublade über das Sehen & in dieser das F auf das Unsichtbare. Und unter den Unsichtbaren Dingen fände ich, wunderbare Verbindung, das Atom & den Punkt, die mir bereits erlauben würden, meinen Zwerg als Menschen-Atom oder als Karnal-Punkt zu bezeichnen.«

Pater Emanuele drehte seine Zylinder und blätterte in den Schubladen rasch wie ein Spieler, so daß die Metaphern ihm wie durch Zauber einzufallen schienen, ohne daß man die mechanische Mühsal bemerkte, mit der sie erzeugt wurden. Aber er war noch nicht zufrieden.

»Meine Herren«, fuhr er fort, »die Ingeniöse Metapher muß noch viel komplexer sein! Jedes Ding, das ich bisher gefunden habe, muß seinerseits nach den Zehn Kategorien analysiert werden, & wie mein Großes Buch mir erklärt, wenn wir ein Ding in Betracht ziehen müßten, das von der Qualitas abhängt, so müßten wir prüfen, ob es sichtbar ist & seit wann es welche Deformation oder welche Schönheit hat & welche Farbe; welchen Klang, welchen Geruch, welchen Geschmack es hat; ob es fühlbar oder berührbar ist, ob selten oder häufig, warm oder kalt, & von welcher Gestalt es ist, von welcher Passion, Liebe, Kunst, Kenntnis, Gesundheit, Krankheit; & ob es jemals eine Wissenschaft ergeben kann; & diese Fragen nenne ich Particulae. Ich weiß nun, daß unsere erste Kostprobe uns dazu gebracht hat, über die Quantitas zu arbeiten, die unter ihren Membra auch die Kleinheit hat. Ich drehe jetzt die Zylinder ein weiteres Mal & erhalte die Triade BKD. Über den Buchstaben B, von dem wir bereits wissen, daß er sich auf die Quantitas bezieht, erfahre ich aus meinem Buch, daß die erste Particula, die etwas Kleines auszudrücken vermag, die Frage ist, nach welchem Maß man es mißt. Wenn ich nun im Buche nachsehe, worauf sich die Misura oder das Maß bezieht, so werde ich erneut auf die Schublade der Quantitäten verwiesen, unter der Familie der Quantitäten im Allgemeinen. Ich nehme also den Bogen des Maßes & wähle dort, was unter K steht, nämlich das Maß

des Geometrischen Fingers. Wohlan, jetzt könnte ich bereits eine recht Scharfsinnige Definition bilden, zum Beispiel: Wollte man jenen Kinder-Säugling oder jenes Menschen-Atom messen, so wäre ein Geometrischer Finger ein Maßloses Maß, was mir viel sagt, indem es der Metapher auch die Hyperbel der Mißgestalt & Lächerlichkeit des Zwerges beifügt.«

»*Quale maraviglia!*« sagte Saletta. »Aber Ihr habt von Eurer zweiten Triade noch nicht den dritten Buchstaben benutzt, das D ...«

»Nichts Geringeres habe ich von Eurem Scharfsinn erwartet, mein Herr«, sagte Pater Emanuele geschmeichelt, »aber Ihr habt tatsächlich den Wunderbarsten Punkt meiner Konstruktion berührt! Genau dieser Buchstabe ist es, der mich weiterbringt (und den ich wegwerfen könnte, wenn er mir lästig geworden wäre oder wenn ich mein Ziel schon erreicht zu haben meinte), denn er erlaubt mir, meine Suche noch einmal von vorn zu beginnen! Dieses D erlaubt mir, den Zyklus der Particulae neu anzufangen & in der Kategorie des Habitus zu suchen (zum Beispiel, welcher Habitus paßt und ob er als Zeichen für etwas dienen kann), um dann von dort aus neu zu beginnen, wie ich es zuvor bei der Quantitas gemacht habe, indem ich die Zylinder weiterdrehe und nur die beiden ersten Buchstaben verwende, um mir den dritten für eine weitere Kostprobe aufzuheben, & so weiter ad infinitum, durch Millionen Möglicher Verbindungen, mögen auch einige scharfsinniger als andere erscheinen, & dann wird es Aufgabe meiner Urteilskraft sein, diejenigen auszuwählen, die am meisten Erstaunen hervorzurufen vermögen. Doch ich will Euch nicht belügen, meine Herren, ich habe nicht zufällig gerade Zwerg gewählt: Gerade erst letzte Nacht hatte ich mich mit großer Gründlichkeit darangemacht, alle Möglichkeiten dieser Substantia herauszuarbeiten.«

Er schwenkte einen Bogen und begann, die Metaphern und Definitionen der Winzigkeit vorzulesen, mit denen er seinen armen Zwerg erdrückte: Männlein, das noch kürzer ist als sein Name; Homunkulusteilchen, neben dem die Staubteilchen, die mit dem Licht durchs Fenster eindringen, groß erscheinen; Körnchen, das mit Millionen seinesgleichen im Hals einer Sanduhr die Stunden anzeigen könnte; Körperbau,

bei dem die Füße dem Kopf am nächsten stehen; karnales Segment, das beginnt, wo es endet; Linie, die sich in einem Punkte zusammenballt; Nadelspitze; Subjekt, mit dem man vorsichtig sprechen muß, damit es der Atem nicht weghaucht; Substanz, so klein, daß keine Farbe auf ihr haftet; Körperchen, das nichts mehr und nichts weniger hat als das, was es nie hatte; formlose Materie, stofflose Form, körperloser Körper, reines Vernunftwesen, Erfindung des Geistes, so gewappnet durch ihre Winzigkeit, daß kein Schlag sie je treffen kann, fähig zur Flucht durch jede Ritze und imstande, sich ein ganzes Jahr lang von einem einzigen Gerstenkorn zu ernähren; Wesen, so komprimiert, daß man nie weiß, ob es sitzt oder liegt oder steht, und das in einem Schneckenhaus zu ertrinken vermag, Samenkorn, Senffünkchen, I-Punkt, mathematisch Unteilbares, arithmetische Null ...

Und er hätte noch lange so weitergemacht, hätten die Zuhörer ihn nicht mit einem Applaus unterbrochen.

Die Originalausgabe erschien 1994 unter dem Titel
L'isola del giorno prima
bei Bompiani in Mailand.

Umwelthinweis:
Dieses Buch und der Schutzumschlag
wurden auf chlorfrei gebleichtem Papier gedruckt.
Die Einschrumpffolie – zum Schutz vor Verschmutzung –
ist aus umweltfreundlicher und recyclingfähiger PE-Folie.

Ungekürzte Buchgemeinschafts-Lizenzausgabe
der Bertelsmann Club GmbH, Rheda-Wiedenbrück
der Buchgemeinschaft Donauland Kremayr & Scheriau, Wien
und der angeschlossenen Buchgemeinschaften

Umschlag- und Einbandgestaltung:
Bernd und Christel Kaselow, München
unter Verwendung eines Ausschnitts aus dem Gemälde
»Die Eroberung von Bahía in Brasilien«
von Fray Juan Bautista Maino (Madrid, Prado)
Satz: Reinhard Amann, Aichstetten
Druck und Bindung: Graphischer Großbetrieb Pößneck GmbH
Printed in Germany · Buch-Nr. 01697 2

Is the Pacifique Sea my Home?
(John Donne, *Hymne to God my God*)

Stolto! a cui parlo? Misero! Che tento?
Racconto il dolor mio
a l'insensata riva
a la mutola selce, al sordo vento ...
Ahi, ch'altro non risponde
che il mormorar de l'onde!*
(Giambattista Marino, »Eco«, *La Lira*, 3, XIX)

* Tor! Zu wem spreche ich? Elender! Was versuche ich?
Ich erzähle mein Leid
der gefühllosen Küste
dem stummen Stein, dem tauben Wind ...
Ach, und es antwortet nichts
als das Murmeln der Wellen!

2

THE HISTORY OF THE THEORY OF HUMAN PROPORTIONS AS A REFLECTION OF THE HISTORY OF STYLES

Studies on the problem of proportions are generally received with skepticism or, at most, with little interest. Neither attitude is surprising. The mistrust is based upon the fact that the investigation of proportions all too frequently succumbs to the temptation of reading out of the objects just what it has put into them; the indifference is explained by the modern, subjective viewpoint that a work of art is something utterly irrational. A modern spectator, still under the influence of this Romantic interpretation of art, finds it uninteresting, if not distressing, when the historian tells him that a rational system of proportions, or even a definite geometrical scheme, underlies this or that representation.

Nevertheless, it is not unrewarding for the art historian (provided that he limit himself to positive data and be willing to work with meager rather than dubious material) to examine the history of canons of proportions. Not only is it important to know whether particular artists or periods of art did or did not tend to adhere to a system of proportions, but the how of their mode of treatment is of real significance. For it would be a mistake to assume that theories of proportions *per se* are constantly one and the same. There is a fundamental difference between the method of the Egyptians and the method of Polyclitus, between the procedure of Leonardo and the procedure of the Middle Ages—a difference so great and, above all, of such a character, that it reflects the basic differences between the art of Egypt and that of classical antiquity, between the art of Leonardo and that of the Middle Ages. If, in

considering the various systems of proportions known to us, we try to understand their meaning rather than their appearance, if we concentrate not so much on the solution arrived at as on the formulation of the problem posed, they will reveal themselves as expressions of the same "artistic intention" (*Kunstwollen*) that was realized in the buildings, sculptures and paintings of a given period or a given artist. The history of the theory of proportions is the reflection of the history of style; furthermore, since we may understand each other unequivocally when dealing with mathematical formulations, it may even be looked upon as a reflection which often surpasses its original in clarity. One might assert that the theory of proportions expresses the frequently perplexing concept of the *Kunstwollen* in clearer or, at least, more definable fashion than art itself.

1 By a theory of proportions, if we are to begin with a definition, we mean a system of establishing the mathematical relations between the various members of a living creature, in particular of human beings, in so far as these beings are thought of as subjects of an artistic representation. From this definition we can foresee on what varied paths the studies of proportions could travel. The mathematical relations could be expressed by the division of a whole as well as by the multiplication of a unit; the effort to determine them could be guided by a desire for beauty as well as by an interest in the "norm," or, finally, by a need for establishing a convention; and, above all, the proportions could be investigated with reference to the object of the representation as well as with reference to the representation of the object. There is a great difference between the question: "What is the normal relationship between the length of the upper arm and the length of the entire body in a person standing quietly before me?" and the question: "How shall I scale the length of what corresponds to the upper arm, in relation to the length of what corresponds to the entire body, on my canvas or block of marble?" The first is a question of "objective" proportions—a question whose answer precedes the artistic activity. The second is a question of "technical" proportions—a question whose answer lies in the artistic process itself; and it is a

question that can be posed and resolved only where the theory of proportions coincides with (or is even subservient to) a theory of construction.

There were, therefore, three fundamentally different possibilities of pursuing a "theory of human measurements." This theory could aim either at the establishment of the "objective" proportions, without troubling itself about their relation to the "technical"; or at the establishment of the "technical" proportions, without troubling itself about their relation to the "objective"; or, finally, it could consider itself exempt from either choice, viz., where "technical" and "objective" proportions coincide with each other.

This last-mentioned possibility was realized, in pure form, only once: in Egyptian art.[1]

There are three conditions which hinder the coincidence of "technical" and "objective" dimensions, and Egyptian art—so far as special circumstances did not create ephemeral exceptions—fundamentally nullified, or, better yet, completely ignored, all three. First, the fact that within an organic body each movement changes the dimensions of the moving limb as well as those of the other parts; second, the fact that the artist, in accordance with normal conditions of vision, sees the subject in a certain foreshortening; third, the fact that a potential beholder likewise sees the finished work in a foreshortening which, if considerable (e.g., with sculptures placed above eye level), must be compensated for by a deliberate departure from the objectively correct proportions.

Not one of these conditions obtains in Egyptian art. The "optical refinements" which correct the visual impression of the beholder (the *temperaturae* upon which, according to Vitruvius, the "eurhythmic" effect of the work depends) are rejected as a matter of principle. The movements of the figures are not organic but mechanical, i.e., they consist of purely local changes in the positions of specific members, changes affecting neither the form nor the dimensions of the rest of the body. And even foreshortening (as well as modeling, which accomplishes by light and shade what foreshortening achieves by design) was deliberately rejected at this phase. Both paint-

[1] And, to a certain extent, in the stylistically analogous art of Asia and archaic Greece.

ing and relief—and for this reason neither is stylistically different from the other in Egyptian art—renounced that apparent extension of the plane into depth which is required by optical naturalism (*σκιαγραφία*); and sculpture refrained from that apparent flattening of the three-dimensional volumes which is required by Hildebrand's principle of *Reliefhaftigkeit*. In sculpture, as in painting and relief, the subject is thus represented in an aspect which, strictly speaking, is no *aspectus* ("view") at all, but a geometrical plan. All the parts of the human figure are so arrayed that they present themselves either in a completely frontal projection or else in pure profile.[2] This applies to sculpture in the round as well as to the two-dimensional arts, with the one difference that sculpture in the round, operating with many-surfaced blocks, can convey to us all the projections in their entirety but separated from each other; whereas the two-dimensional arts convey them incompletely, but in one image: they portray head and limbs in pure profile while chest and arms are rendered in pure front view.

In completed sculptural works (where all the forms are rounded off) this geometrical quality, reminiscent of an architect's plan, is not so evident as in paintings and reliefs; but we can recognize from many unfinished pieces that even in sculpture the final form is always determined by an underlying geometrical plan originally sketched on the surfaces of the block. It is evident that the artist drew four separate designs

[2] A notable exception can be observed, as far as painting and relief are concerned, only at the portion above the hip; but even here we are not faced with a genuine foreshortening, i.e., the naturalistic rendering of a portion of the body "in movement"; rather we are confronted with a graphic transition between the frontal elevation of the chest and the profile elevation of the legs—a form that resulted almost automatically when these two elevations were joined by contours. It was left to Greek art to replace this graphic configuration by a form expressing actual torsion, that is to say, a "change" effecting a fluid transition between two "states": as Greek mythology cherished metamorphosis, so did Greek art stress those transitional—or, as Aristoxenus would say, "critical"—movements which we are wont to designate as *contrapposto*. This is especially evident in reclining figures; compare, e.g., the Egyptian Earth-God Keb with such figures hurled to the ground as the Giants in the pediment of the "Second Temple of Athena."

on the vertical surfaces of the block (supplementing them on occasion by a fifth, viz., by the ground plan entered on the upper, horizontal surface);[3] that he then evolved the figure by working away the surplus mass of stone so that the form was bounded by a system of planes meeting at right angles and connected by slopes; and that, finally, he removed the sharply defined edges resulting from the process (Fig. 17). In addition to such unfinished pieces, there is a sculptor's working drawing, a papyrus formerly in the Berlin Museum, that illustrates the mason-like method of these sculptors even more clearly: as if he were constructing a house, the sculptor drew up plans for his sphinx in frontal elevation, ground plan and profile elevation (only a minute portion of this last is preserved) so that even today the figure could be executed according to plan (Fig. 18).[4]

Under these circumstances the Egyptian theory of proportions could, as a matter of course, dispense with the decision whether it aimed at establishing the "objective" or the "technical" dimensions, whether it purported to be anthropometry or theory of construction: it was, necessarily, both at the same time. For to determine the "objective" proportions of a subject, i.e., to reduce its height, width and depth to measurable magnitudes, means nothing else but ascertaining its dimensions in frontal elevation, side elevation and ground plan. And since an Egyptian representation was limited to these three plans (except that the sculptor juxtaposed while the master of a two-dimensional art fused them), the "technical" proportions could not but be identical with the "objective." The relative dimensions of the natural object, as contained in the front elevation, the side elevation and the ground plan, could not but coincide with the relative dimensions of the artifact: if the Egyptian artist assumed the total length of a human figure to be divided into 18 or 22 units and, in addition, knew that the length of the foot amounted to 3 or 3½ such units, and the

[3] The ground plan was necessary where the main dimensions of the figure were horizontal rather than vertical, as in representations of animals, sphinxes, or reclining humans, and in groups composed of several individual figures.

[4] *Amtliche Berichte aus den königlichen Kunstsammlungen*, XXXIX, 1917, col. 105 ff. (Borchardt).

length of the calf to 5,[5] he also knew what magnitudes he had to mark off on his painting ground or on the surfaces of his block.

From many examples preserved to us[6] we know that the Egyptians effected this subdivision of the stone or wall surface by means of a finely meshed network of equal squares; this they employed not only for the representation of human beings but also for that of the animals which play so prominent a role in their art.[7] The purpose of this network will be best understood if we compare it with the deceptively similar system of squares used by the modern artist to transfer his composition from a smaller to a larger surface (*mise au carreau*). While this procedure presupposes a preparatory drawing—in itself bound to no quadrature—on which horizontal and vertical lines are subsequently superimposed in arbitrarily selected places, the network used by the Egyptian artist precedes the design and predetermines the final product. With its more significant lines permanently fixed on specific points of the human body, the Egyptian network immediately indicates to the painter or sculptor how to organize his figure: he will know from the outset that he must place the ankle on the first horizontal line, the knee on the sixth, the shoulders on the sixteenth, and so on (Text Ill. 1).

In short, the Egyptian network does not have a transferential significance, but a constructional one, and its usefulness

[5] The subdivision into eighteen squares characterizes the "earlier canon," that into twenty-two the "later." But in both, the upper part of the head (the portion above the *os frontale* in the "earlier" canon, the portion above the hairline in the "later") is not taken into account, since the diversity of the coiffure and headdress demanded a certain freedom here. See H. Schäfer, *Von ägyptischer Kunst*, Leipzig, 1919, II, p. 236, Note 105, and the most illuminating article by C. C. Edgar, "Remarks on Egyptian 'Sculptors' Models,'" in *Recueil de travaux relatifs à la philologie . . . égyptienne*, XXVII, p. 137 ff.; cf. also *idem*, Introduction to *Catalogue Général des Antiquités Egyptiennes du Musée du Caire*, XXV, *Sculptors' Studies and Unfinished Works*, Cairo, 1906.

[6] Especially numerous in the Cairo Museum; see also the interesting wall-painting cycle of Ptolemy I in the Pelizaeus Museum at Hildesheim.

[7] Edgar, *Catalogue*, p. 53; cf. also A. Erman, in *Amtliche Berichte aus den königlichen Kunstsammlungen*, XXX, 1908, p. 197 ff.

extended from the establishment of dimensions to the definition of movement. Since such actions as striding forth or striking out were expressed only in stereotyped alterations of position, and not in changing anatomical displacements, even movement could be adequately determined by purely quantitative data. It was, for instance, agreed that in a figure considered to be in a lunging position the length of pace (measured from the tip of one foot to the tip of the other) should amount to 10½ units, while this distance in a figure quietly standing was set at 4½ or 5½ units.[8] Without too much exaggeration one could maintain that, when an Egyptian artist familiar with this system of proportions was set the task of representing a standing, sitting or striding figure, the result was a foregone conclusion once the figure's absolute size was determined.[9]

This Egyptian method of employing a theory of proportions clearly reflects their *Kunstwollen,* directed not toward the variable, but toward the constant, not toward the symbolization of the vital present, but toward the realization of a timeless eternity. The human figure created by a Periclean artist was supposed to be invested with a life that was only apparent, but—in the Aristotelian sense—"actual"; it is only an image but one which mirrors the organic function of the human being. The human figure created by an Egyptian was supposed to be invested with a life that was real, but—in the Aristotelian sense—only "potential"; it reproduces the form, but not the function, of the human being in a more durable replica. In fact, we know that the Egyptian tomb statue was not intended to simulate a life of its own but to serve as the material substratum of another life, the life of the spirit "Kā." To the Greeks the plastic effigy commemorates a human being that lived; to the Egyptians it is a body that waits to be reenlivened. For the Greeks, the work of art exists in a sphere of aesthetic ideality; for the Egyptians, in a sphere of magical

[8] Cf., e.g., E. Mackay, in *Journal of Egyptian Archaeology,* IV, 1917, Pl. XVII. In other respects, however, Mackay's article does not seem to attain the solidity of Edgar's works.

[9] Conversely, the absolute size is, of course, determined by a single square of the network, thus making it possible for the Egyptologist to reconstruct the whole figure from the merest fragment of such a network.

reality. For the former, the goal of the artist is imitation (*μίμησις*); for the latter, reconstruction.

Let us turn once more to that preparatory drawing for a sculpture of a sphinx. No fewer than three different networks are used, and had to be used, since this particular sphinx, holding the small figure of a goddess between his paws, is composed of three heterogeneous parts, each of which requires its own system of construction: the body of a lion, whose proportioning adheres to the canon suitable for this breed of animal; the human head, which is subdivided according to the scheme of the so-called Royal Heads (in Cairo alone more than forty models are preserved); and the small goddess, which is based upon the customary canon of twenty-two squares prescribed for the whole human figure.[10] Thus the creature to be represented is a pure "reconstruction," assembled from three components each of which is conceived and proportioned exactly as though it were standing alone. Even where he had to combine three heterogeneous elements into one image, the Egyptian artist did not find it necessary to modify the rigidity of the three special systems of proportion in favor of an organic unity which, in Greek art, asserts itself even in a Chimaera.

11 We can foresee from the foregoing paragraphs that the classical art of the Greeks had to free itself completely from the Egyptian system of proportions. The principles of archaic Greek art were still similar to those of the Egyptians; the advance of the classical style beyond the archaic consisted in its accepting as positive artistic values precisely those factors which the Egyptians had neglected or denied. Classical Greek art took into account the shifting of the dimensions as a result of organic movement; the foreshortening resulting from the process of vision; and the necessity of correcting, in certain

[10] It is this "peculiar deviation from other network drawings" that lends special importance to the Berlin Sphinx Papyrus: that three different systems of proportions were employed—an anomaly easily explained by the fact that the organism in question is not a homogeneous but a heterogeneous one—conclusively proves that the Egyptian system of equal squares was not a method of transfer, but a canon. For the purpose of a mere *mise au carreau*, artists always use, of course, a uniform grid.

instances, the optical impression of the beholder by "eurhythmic" adjustments.[11] Hence, the Greeks could not start out with a system of proportions which, in stipulating the "objective" dimensions, also irrevocably set down the "technical" ones. They could admit a theory of proportions only in so far as it allowed the artist the freedom to vary the "objective" dimensions from case to case by a free rearrangement—in short, only in so far as it was limited to the role of anthropometry.

We are, therefore, much less exactly informed of the Greek theory of proportions, as developed and applied in classical times, than of the Egyptian system. Once the "technical" and "objective" dimensions have ceased to be identical, the system or systems can no longer be directly perceived in the works of art;[12] we can glean, on the other hand, some information from literary sources, frequently linked to the name of

[11] Cf. the oft-cited story of an *Athena* by Phidias, where the lower part of the body, although "objectively" too short, nevertheless appeared "correct" when the statue was placed high above eye level (J. Overbeck, *Die antiken Schriftquellen zur Geschichte der bildenden Kunst bei den Griechen*, Leipzig, 1868, No. 772). Very interesting, also, is the little-noticed passage in Plato's *Sophistes*, 235E/236A: *Οὔκουν ὅσοι γε τῶν μεγάλων πού τι πλάττουσιν ἔργων ἢ γράφουσιν. εἰ γὰρ ἀποδιδοῖεν τὴν τῶν καλῶν ἀληθινὴν συμμετρίαν, οἶσθ' ὅτι σμικρότερα μὲν τοῦ δέοντος τὰ ἄνω, μείζω δὲ τὰ κάτω φαίνοιτ' ἂν διὰ τὸ τὰ μὲν πόρρωθεν, τὰ δ' ἐγγύθεν ὑφ' ἡμῶν ὁρᾶσθαι. ἆρ' οὖν οὐ χαίρειν τὸ ἀληθὲς ἐάσαντες οἱ δημιουργοὶ νῦν οὐ τὰς οὔσας συμμετρίας, ἀλλὰ τὰς δοξούσας εἶναι καλὰς τοῖς εἰδώλοις ἐναπεργάζονται;* In English, according to the translation by H. N. Fowler, *Plato* (Loeb Classical Library), II, p. 335: "Not only those who produce some large work of sculpture or painting [*scil.*, use "illusion"]. For if they reproduced the true proportions of beautiful forms, the upper parts, you know, would seem smaller and the lower parts larger than they ought because we see the former from a distance, the latter from near at hand. . . . So the artists abandon the truth and give their figures not the actual proportions but those which seem to be beautiful, do they not?"

[12] The well-known Metrological Relief at Oxford (*Journal of Hellenic Studies*, IV, 1883, p. 335 ff.) has nothing to do with the theory of proportions in art, but solely serves to standardize what may be called commercial measurements: 1 fathom (*ὀργυία*) = 7 feet (*πόδες*) = 2.07 m., each foot being 0.296 m. Hence, no attempt is made to divide proportionally the human figure which here demonstrates these measurements.

Polyclitus—the father, or at least the formulator, of classical Greek anthropometry.[13]

We read, for example, in Galen's *Placita Hippocratis et Platonis:* τὸ δὲ κάλλος οὐκ ἐν τῇ τῶν στοιχείων, ἀλλ' ἐν τῇ τῶν μορίων συμμετρίᾳ συνίστασθαι νομίξει [Χρύσιππος], δακτύλου πρὸς δάκτυλον δηλονότι καὶ συμπάντων αὐτῶν πρός τε μετακάρπιον καὶ καρπόν, καὶ τούτων πρὸς πῆχυν, καὶ πήχεως πρὸς βραχίονα, καὶ πάντων πρὸς πάντα, καθάπερ ἐν τῷ Πολυκλείτου κανόνι γέγραπται.[14] "Chrysippus . . . holds that beauty does not consist in the elements but in the harmonious proportion of the parts, the proportion of one finger to the other, of all the fingers to the rest of the hand, of the rest of the hand to the wrist, of these to the forearm, of the forearm to the whole arm, in fine, of all parts to all others, as it is written in the canon of Polyclitus."

In the first place, this passage confirms what had been suspected from the outset: that the Polyclitan "canon" possessed a purely anthropometric character, i.e., that its purpose was not to facilitate the compositional treatment of stone blocks or wall surfaces, but exclusively to ascertain the "objective" proportions of the normal human being; in no way did it predetermine the "technical" measurements. The artist who observed this canon was not required to refrain from rendering anatomical and mimetic variations, or from employing foreshortenings, or even, when necessary, from adjusting the dimensions of his figure to the subjective visual experience of the beholder (as when the sculptor lengthens the upper portions of a figure placed high or thickens the averted side of a face turned to three-quarter profile). In the second place, Galen's testimony characterizes the principle of the Polyclitan theory of proportions as what may be called "organic."

As we know, the Egyptian artist-theoretician first con-

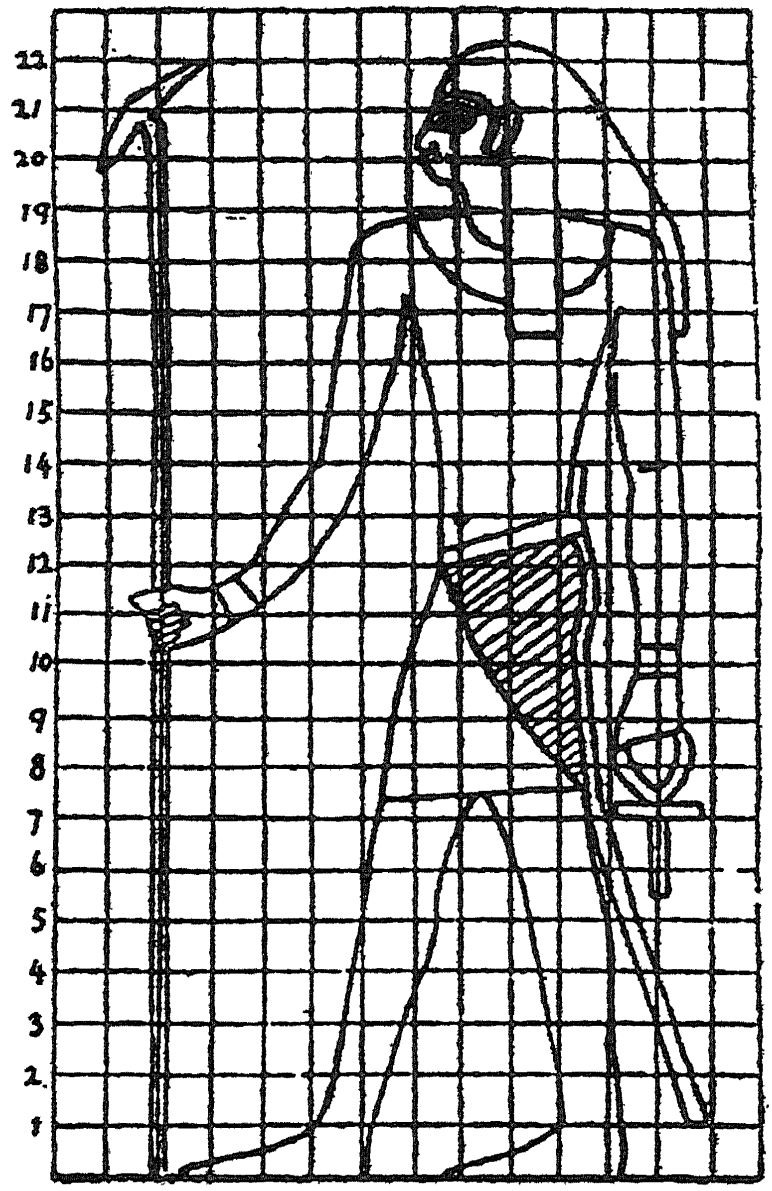
[13] Of the theoreticians of proportions mentioned by Vitruvius—Melanthius, Pollis, Demophilus, Leonidas, Euphranor, and so forth—we know nothing but their names. Kalkmann (*Die Proportionen des Gesichts in der griechischen Kunst* [Berliner Winckelmannsprogramm, No. 53], 1893, p. 43 ff.) has, however, tried to trace the Vitruvian statements of measurements back to the canon of Euphranor. A more recent article by Foat (in *Journal of Hellenic Studies,* XXXV, 1914, p. 225 ff.) has not substantially advanced our knowledge of the antique theory of proportions.

[14] Galen, *Placita Hippocratis et Platonis,* V, 3.

structed a network of equal squares[15] and then inserted into this network the outlines of his figure—unconcerned as to whether each line of the network coincided with one of the organically significant junctures of the body. We can observe, e.g., that within the "later canon" (Text Ill. 1) the horizontals, 2, 3, 7, 8, 9, 15 run through completely insignificant points. The Greek artist-theoretician proceeded in the opposite way. He did not start with a mechanically constructed network in which he subsequently accommodated the figure; he started, instead, with the human figure, organically differentiated into torso, limbs and parts of limbs, and subsequently tried to ascertain how these parts related to each other and to the whole. When, according to Galen, Polyclitus described the proper proportion of finger to finger, finger to hand, hand to forearm, forearm to arm and, finally, each single limb to the entire body, this means that the classical Greek theory of proportions had abandoned the idea of constructing the body on the basis of an absolute module, as though from small, equal building blocks: it sought to establish relations between the members, anatomically differentiated and distinct from each other, and the entire body. Thus it is not a principle of mechanical identity, but a principle of organic differentiation that forms the basis of the Polyclitan canon; it would have been utterly impossible to incorporate its stipulations into a network of squares. For an idea of the character of the lost theory of the Greeks, we must turn, not to the Egyptian system of proportions, but to the system according to which the figures in the First Book of Albrecht Dürer's treatise on human proportions are measured (Text Ill. 7).

The dimensions of these figures are all expressed in common fractions of the total length, and the common fraction is indeed the only legitimate mathematical symbol for the "rela-

[15] The unit itself equals the height of the foot from the sole to the upper limit of the ankle [and has recently been defined as 1 "fist" or 1⅓ "handbreadths" (see Iversen, cited on p. vi)]. However, the relation of this unit to the dimensions of the individual members, even to the length of the foot itself, varies; it is, in fact, somewhat doubtful whether it was intended to establish such a relation at all. In the "early" canon the length of the foot is generally equal to 3 units (cf., however, Edgar, *Travaux*, p. 145), in the "later," to nearly 3½, etc.



1 The "Later Canon" of Egyptian Art, after *Travaux relatifs à la philologie et archéologie égyptiennes,* XXVII, 905, p. 144.

tions of commensurable quantities." The passage transmitted by Galen shows that Polyclitus, too, consistently expressed the measure of a smaller part as the common fraction of a larger —and, finally, the total—quantity, and that he did not think of expressing the dimensions as multiples of a constant *modulus.* It is precisely this method—directly relating the dimensions to each other and expressing them through each other, instead of separately reducing them to one, neutral unit ($x = \frac{y}{4}$, not $x = 1$, $y = 4$)—which achieves that immediately evident

"Vergleichlichkeit Eins gegen dem Andern" (Dürer) which is characteristic of the classical theory. It is no accident when Vitruvius, the only ancient writer who handed down to us some actual, numerical data regarding human proportions (data evidently deriving from Greek sources), formulates them exclusively as common fractions of the body length,[16] and it has been established that in Polyclitus' own *Doryphoros* the dimensions of the more important parts of the body are expressible as such fractions.[17]

The anthropometric and organic character of the classical theory of proportions is intrinsically connected with a third characteristic, its pronouncedly normative and aesthetic ambition. Where the Egyptian system aims only at reducing the conventional to a fixed formula, the Polyclitan canon claims to capture beauty. Galen expressly calls it a definition of that "wherein beauty consists" (κάλλος συνίσταθαι). Vitruvius intro-

[16] This fact has justly been stressed by Kalkmann (*op. cit.*, p. 9 ff.) in refutation of those who would deduce from the Galen passage the description of a module system. These authors were apparently misled by the δάκτυλος (finger), which they interpreted as a unit of measurement, whereas it is the smallest part of the body to be measured.

For convenience' sake I list the Vitruvian measurements:
a) face (from hairline to chin) = 1/10 (of the total length);
b) hand (from wrist to tip of middle finger) = 1/10;
c) head (from crown to chin) = 1/8;
d) pit of the throat to hairline = 1/6;
e) pit of the throat to crown of head = 1/4;
f) length of the foot = 1/6;
g) cubit = 1/4;
h) breadth of the chest = 1/4.

Furthermore, it is specified that the face is divided into three equal parts (forehead, nose, lower part including mouth and chin), and that the entire body, when erect with arms outspread, fits into a square; and when spreadeagled, into a circle described around the navel. [For the cosmological origin of the last-named specifications, see now F. Saxl, quoted p. vi.]

Statements (a) and (c) are obviously in contradiction with statements (d) and (e), according to which 1/12 instead of 1/10 would remain for the upper part of the cranium. Since only the latter value can be correct, the corruption of the text must be in statement (d) or (e). Hence the Renaissance theorists, e.g., Leonardo, introduced various corrections here (cf. below, Note 83).

[17] Kalkmann, *op. cit.*, pp. 36–37.

duces his little list of measurements as "the dimensions of the *homo bene figuratus.*" And the only statement that can be traced back with certainty to Polyclitus himself reads as follows: τὸ γὰρ εὖ παρὰ μικρὸν διὰ πολλῶν ἀριθμῶν γίγνεσθαι,[18] "the beautiful comes about, little by little, through many numbers." Thus the Polyclitan canon was intended to realize a "law" of aesthetics, and it is thoroughly characteristic of classical thought that it could imagine such a "law" only in the form of relations expressible in terms of fractions. With the sole exception of Plotinus and his followers, classical aesthetics identified the principle of beauty with the consonance of the parts with each other and the whole.[19]

[18] E. Diels, in *Archäologischer Anzeiger*, 1889, No. I, p. 10.

[19] It may be in order at this point to discuss the three pertinent concepts of Vitruvius' aesthetic theory: *proportio, symmetria,* and *eurhythmia.* Of these, *eurhythmia* creates the least difficulty. As we have mentioned more than once (cf. also Kalkmann, *op. cit.*, p. 9 f., Note, as well as p. 38 f., Note), it depends upon the appropriate application of those "optical refinements" which, by increasing or diminishing the objectively correct dimensions, neutralize the subjective distortions of the work of art. Hence, according to Vitruvius, I, 2, *eurhythmia* is a "venusta species commodusque aspectus" (i.e., "a pleasing appearance and a suitable aspect"); it is the distinctive quality of what Philo Mechanicus (quoted by Kalkmann) calls τὰ ὁμόλογα τῇ ὁράσει καὶ εὔρυθμα φαινόμενα, of "that which appears conformable and eurhythmic to the sense of sight." In architecture this means, e.g., the thickening of the corner columns of peripteral temples which, owing to irradiation, would otherwise appear slenderer than the others; or the curvatures of stylobates and epistyles. The difference between *proportio* and *symmetria* is the more difficult to determine as both these terms are still in use but have assumed a basically different significance. In Vitruvian usage, it seems to me, *symmetria* ("symmetry" in its original sense) is to *proportio* as norm-definition is to norm-realization. *Symmetria,* defined (in I, 2) as "ex ipsius operis membris conveniens consensus ex partibusque separatis ad universae figurae speciem ratae partis responsus" ("the appropriate harmony resulting from the members of the work itself, and the metrical correspondence resulting from the separate parts in relation to the aspect of the whole configuration") is what may be called the aesthetic principle: the reciprocal relation between the members and the consonance between the parts and the whole. *Proportio,* on the other hand, defined (in III, 1) as "ratae partis membrorum in omni opere totiusque commodulatio" ("the metrical coordination, throughout the work, of the *rata pars* [module, unit] and the whole"), is the technical

Classical Greece, then, opposed to the inflexible, mechanical, static, and conventional craftsman's code of the Egyptians an elastic, dynamic, and aesthetically relevant system of relations. And this contrast was demonstrably known to antiquity itself. Diodorus of Sicily tells, in the ninety-eighth chapter of his First Book, the following story: In ancient times (that is to say, the sixth century B.C.) two sculptors, Telekles and Theodoros, made a cult statue in two separate parts; while the former prepared his portion on Samos, the latter made his in Ephesus; and on being brought together, each half matched the other perfectly. This method of working, so the story goes on, was not customary among the Greeks but among the Egyptians. For with them "the proportions of the statue were not determined, as with the Greeks, according to visual experience" (*ἀπὸ τῆς κατὰ τὴν ὄρασιν φαντασίας*), but as soon as the

---

method by means of which these harmonious relations are, to use Dürer's words, "put into practice": the architect assumes a module (*rata pars, ἐμβάτης*) by the multiplication of which (IV, 3) he obtains the actual, metrical dimensions of the work—as when a modern architect, having decided to build a living room proportioned at a ratio of 5:8, sets down its actual dimensions as 18' 9" by 30'. *Proportio,* then, is not something that determines beauty, but only ensures its practical realization, and Vitruvius is very consistent in characterizing *proportio* as that through which *symmetria efficitur,* while insisting that *proportio,* in turn, must be "attuned to symmetry" (*"universaeque proportionis ad symmetriam comparatio"*). In short, *proportio,* best translated as "reduction to scale," is a method of architectural technique which, from the classical standpoint, has little relevance for the figurative arts. It is perfectly logical when Vitruvius includes his survey of human proportions, not in the exposition of *proportio,* but of *symmetria,* and when, as already noted, he expresses them not as multiples of a module, but as fractions of the total length of the body. He looks upon the use of the module, *commodulatio,* only as a method of practical mensuration; whereas he can imagine the "appropriate harmony" of the dimensions, the determination of which must precede this *commodulatio,* only in terms of relations (expressible in fractions) which derive from the organic articulation of the body (or, for that matter, the building) itself. See also Kalkmann, *op. cit.,* p. 9, Note 2: "*Proportio* affects only the construction with the aid of the module, the *rata pars. Symmetria* is an additional factor: the members must be beautifully and suitably related to each other, a postulate not as yet raised by *proportio*"; further, A. Jolles, *Vitruvs Aesthetik* (Diss., Freiburg, 1906), p. 22 ff.

size of the figure to be carved, could not have worked one portion independently from the other: even when strictly adhering to a stipulated canon of measurement, they would have been free with regard to the formal configuration.[23] The contrast which Diodorus wants to bring out can, therefore, hardly mean, as has been supposed, that the Greeks, as opposed to the Egyptians, had no canon at all but proportioned their figures "by sight"[24]—apart from the fact that Diodorus, at least through tradition, must have had knowledge of Polyclitus' efforts. What he means to convey is that for the Egyptians the canon of proportions was, of itself, sufficient to predetermine the final result (and, for this reason, could be applied "on the spot" as soon as the stones were prepared); whereas from the Greek point of view something completely different was required in addition to the canon: visual observation. He wants to make the point that the Egyptian sculptor, like a stonemason, needed nothing more than the dimensions to manufacture his work, and, depending completely upon them, could reproduce—or, more exactly, produce—the figures in any place and in any number of parts; whereas, in contrast to this, the Greek artist could not immediately apply the canon to his block, but must, from case to case, consult with the κατὰ τὴν ὄρασιν φαντασία, i.e., with a "visual percept" that takes into account the organic flexibility of the body to be represented, the diversity of the foreshortenings that present themselves to the artist's eye, and, possibly, even the particular circum-

[23] Exception must therefore be taken to Jolles, *op. cit.*, p. 91 ff., when he relates our passage to a dichotomy supposedly existing within classical Greek art itself—a dichotomy which he characterizes as an opposition between a "symmetrical" and a "eurhythmic" conception of art, the latter but not the former allegedly based upon the κατὰ τὴν ὄρασιν φαντασία. Diodorus' tale about Telekles and Theodoros does not refer to the concept of συμμετρία at all; in fact, he uses the expression συμμετρία with reference to precisely that classical—and, in relation to Telekles and Theodoros, more "modern"—style which, according to Jolles, would mark a non-"symmetrical," i.e., "eurhythmic," conception of art.

[24] As did Wahrmund in his translation of Diodorus (1869). This view was correctly rejected by Kalkmann (*op. cit.*, p. 38, Note) as being at variance with the very concept of συμμετρία which of itself implies that the work of art is not fashioned purely "by sight," but depends upon established norms of measurement.

stances under which the finished work may be seen. All this, needless to say, subjects the canonical system of measurement to countless alterations when it is put into practice.[25]

The contrast which Diodorus' story is intended to make clear, and which it does make clear with remarkable vividness, is thus a contrast between "reconstruction" and "imitation" (*μίμησις*), between an art completely governed by a mechanical and mathematical code and one within which, despite conformity to rule, there is still room for the *irrationale* of artistic freedom.[26]

III The style of mediaeval art (except, perhaps, for the phase known as High Gothic), in contradistinction to that of classical antiquity, is customarily designated as "planar" (*flächenhaft*). In comparison with Egyptian art, however, it ought to be characterized as merely "planate" (*verflächigt*). For the difference between Egyptian and mediaeval "planarity" is that in the former the depth motifs are totally suppressed, while in the latter they are only devaluated. Egyptian representations are planar because Egyptian art renders only that which can *de facto* be presented in the plane; mediaeval representations seem planar even though mediaeval art renders that which cannot *de facto* be presented in the plane. Where the Egyptians positively exclude the three-quarter profile and oblique directions of the torso or limbs, the mediaeval style, presupposing the free movement of the antique, admits the one as well as the other (in fact, the three-quarter profile is the rule while the full profile and the pure front view are the exception). However, these posi-

[25] To suppose, as does Kalkmann, that Diodorus here thinks exclusively of the "eurhythmic" *temperaturae* appears to me to be too narrow a reading.

[26] Hence Leone Battista Alberti, who, strange to say, also mentions the possibility of producing a statue in two parts and in two different places (*Leone Battista Albertis kleinere kunsttheoretische Schriften*, H. Janitschek, ed. [*Quellenschriften für Kunstgeschichte*, XI], Vienna, 1877, p. 199), considers this possibility only in connection with the task of exactly duplicating a statue already extant; he did not envisage it in order to illustrate a method of creative artistic production but in order to stress the precision of a method of transfer which he himself had invented.

tions are no longer exploited so as to create an illusion of actual depth; since the optically effective means of modeling and cast shadow had been abandoned, these positions are, as a rule, expressed by a manipulation of linear contours and flat areas of color.[27] Thus there are in mediaeval art all kinds of forms which, from a purely technical point of view, may be described as "foreshortened." But, since their effect is not supported by optical means, they do not strike us as "foreshortenings" in the sense in which the term is commonly used. Obliquely placed feet, for example, more often than not give an impression of hanging down rather than of being seen from the front; and the three-quarter view of the shoulders, reduced to a planar expression, tends to suggest the hump of a hunchback.

Under these circumstances the theory of proportions had to be oriented towards new goals. On the one hand, the flattening of the body forms was incompatible with the antique anthropometry which presupposes the idea that the figure exists as a three-dimensional solid; on the other hand, the unrestrained mobility of these forms, an irrevocable legacy from classical art, made it impossible to accept a system which, similar to the Egyptian, would predetermine the "technical" as well as the "objective" dimensions. Thus the Middle Ages faced the same choice as classical Greece; but it was forced to elect the opposite alternative. The Egyptian theory of proportions, identifying the "technical" with the "objective" dimensions, had been able to combine the characteristics of anthropometry with those of a system of construction; the Greek theory of proportions, abolishing this identity, had been forced to renounce the ambition to determine the "technical" dimensions; the mediaeval system renounced the ambition to determine the "objective" ones: it restricted itself to organizing the planar aspect of the picture. Where the Egyptian method had been constructional, and that of classical antiquity anthropometric, that of the Middle Ages may be described as schematic.

Within this mediaeval theory of proportions, however, two different tendencies can be observed. They agree, to be sure,

[27] In the High Middle Ages even the forms of the high lights and shadows tend to freeze into purely linear elements.

in that both are based on the principle of planimetric schematization; but they differ in that this principle is interpreted in dissimilar ways: the Byzantine and the Gothic.

The Byzantine theory of proportions which, corresponding to the enormous influence of Byzantine art, was also of extraordinary importance for the West (see Fig. 19), still betrays the aftereffects of the classical tradition in that it worked out its schema by taking the organic articulation of the human body as a starting point: it accepted the fundamental fact that the parts of the body are set off from each other by nature. But it was wholly unclassical in that the measurements of these parts were no longer expressed by common fractions but by a somewhat coarse application of the unit or module system. The dimensions of the body as appearing in a plane—whatever lay outside the plane was disregarded as a matter of course—were expressed in head-, or more accurately, face-lengths (in Italian: *viso* or *faccia*, frequently referred to also as *testa*),[28] the total length of the body ordinarily amounting to nine such units. Thus, according to the *Painter's Manual of Mount Athos*, 1 unit is allotted to the face, 3 to the torso, 2 each to the upper and lower parts of the leg, ⅛ (= one nose-length) to the top of the head, ⅛ to the height of the foot, and ⅛ to the throat;[29] the breadth of half the chest (in-

[28] This in itself is characteristic of the temper of the times. From the classical point of view, the metrical values of the face, the foot, the cubit, the hand, the finger, had been of equal interest; now the face, the seat of spiritual expression, is taken as the unit of measurement, "because of its importance, beauty and divisibility," as Averlino Filarete was to put it by the middle of the fifteenth century; see *Antonio Averlino Filaretes Traktat über die Baukunst*, W. von Oettingen, ed. (*Quellenschriften für Kunstgeschichte*, new ser., III), Vienna, 1890, p. 54.

[29] *Das Handbuch der Malerei vom Berge Athos*, Godehard Schäfer, ed., 1855, p. 82. In Julius v. Schlosser's masterly commentary on Ghiberti's *Commentarii* (*Lorenzo Ghibertis Denkwürdigkeiten*, Berlin, 1912, II, p. 35), there appears the statement (provided with a question mark by Schlosser himself) that the Mount Athos canon claims the "height of the foot" to equal a whole unit; this is a slight inaccuracy, due to a confusion with the length of the foot "from ankle to toes," which, exactly as in Cennini, does amount to one unit. The height of the foot, likewise in accord with Cennini, is expressly set down as equaling one nose-length, or ⅛

cluding the curve of the shoulders) is assumed to be 1⅛ units, while the inner lengths of the forearm and arm, as well as the length of the hand, are each assumed to equal 1.

These specifications are quite similar to those transmitted by Cennino Cennini, the theoretician of the closing period of the Trecento, most of whose views were firmly rooted in Byzantinism. His statements agree with those of the Mount Athos canon in all particulars, except that the length of the torso (3 face-lengths) is subdivided by two specific points, the pit of the stomach and the navel, and that the height of the top of the

---

of a unit, and this, plus the neck and the top of the head (both of these also = ⅛), makes up the unit which completes the total length of the body to nine face-lengths.

The documentary value of the specifications contained in the *Painter's Manual of Mount Athos* has, in my opinion, been underestimated in recent literature. Even though the edition that has come down to us is of fairly recent date and (as indicated by such expressions as τὸ νατουράλε)reveals the influence of Italian sources, much of the basic content of the document would seem to go back to the practice of the High Middle Ages. That this is true of the chapter on proportions is evidenced by the fact that the dimensions established in the Mount Athos canon can be substantiated by Byzantine and Byzantinizing works produced in the twelfth and thirteenth centuries and even earlier (cf. below). This applies also to statements which cannot be traced back to classical antiquity, for instance, to the division of the entire body into 9 face-lengths (according to Vitruvius, 10); to the statement that the top of the head equals one nose-length or 1/27 of the total height (according to Vitruvius, 1/40); and to the apportioning of only 1/9 to the length of the foot (according to Vitruvius, ⅙). Thus, when Cennini's proportions agree with the Mount Athos canon in all these points, it should not be concluded that the Mount Athos canon depends upon Italian sources but, rather, that a Byzantine tradition survives in Cennini.

There is, on the other hand, no denying that the *Painter's Manual* incorporates many recent, Western elements. In the instruction for illustrating the twelfth chapter of *Revelation*, for example, the artist is enjoined to show "the Child being carried aloft in a cloth by two angels" (ed. Schäfer, p. 251), and this is, so far as I know, an innovation of Dürer's, first occurring in his woodcut B.71. [Subsequently, L. H. Heydenreich, "Der Apokalypsenzyklus im Athosgebiet und seine Beziehungen zur deutschen Bibelillustration," *Zeitschrift für Kunstgeschichte*, VIII, 1939, p. 1 ff., has been able to show that Dürer's *Apocalypse* became familiar to the Byzantine artists through the intermediary of Holbein's woodcuts in the New Testament published at Basel (Wolff) in 1523.]

head is not expressly determined as ⅛ of a unit, so that—without it—a total length of only 8⅞ *visi* results. From then on, this Byzantine canon of 9 face-lengths penetrated into the art theory of succeeding periods, where it plays an important role down to the seventeenth and eighteenth centuries[30]—at times completely unchanged, as in Pomponius Gauricus, at times with slight modifications, as in Ghiberti and Filarete.

I have no doubt that the origin of this system, achieving mensuration by way of numeration, so to speak, is to be sought in the East. True, a most questionable report of the late Renaissance (Philander) attributes to the Roman Varro[31] a canon which—dividing the total length of the body into 9⅛ *teste*—seems closely related to the systems discussed so far. But apart from the fact that the ancient literature on art shows no trace of such a canon[32] and that the statements of Polyclitus and Vitruvius are based upon a completely different system (viz., that of common fractions), the antecedents of the tradition represented by the *Painter's Manual of Mount Athos* and Cennini's *Treatise* can be shown to have existed in Arabia. In the writings of the "Brethren of Purity," an Arabian scholarly brotherhood that flourished in the ninth and tenth

[30] The Early Renaissance canons in question are cited in extract by Schlosser, *op. cit.* I should like to add the less well-known statements in Francesco di Giorgio Martini's *Trattato di architettura civile e militare* (C. Saluzzo, ed., Turin, 1841, I, p. 229 ff.), which are interesting in that they still reveal a marked tendency toward planimetric schematization. For the later period, one may mention, among others, Mario Equicola, Giorgio Vasari, Raffaele Borghini and Daniel Barbaro; the last-named author (*La pratica della prospettiva*, Venice, 1569, p. 179 ff.) transmits—along with the Vitruvian canon—a canon "of his own invention" which, however, differs from the well-known nine-*teste* type only in that ⅛ of a *testa* (i.e., one nose-length), is elevated to the status of a module and referred to as a *pollice* ("thumb"). Then the crown of the head equals 1 thumb, the height of the foot and the neck 1½ thumbs each. Thus the final total amounts to 9⅛ *teste;* the remaining 8 *teste* are distributed in the usual way.

[31] Schlosser, *op. cit.*, p. 35, Note. The extra third is allotted to the knee, whereby this pseudo-Varronic canon appears somewhat analogous to Ghiberti's arrangement: Ghiberti fixes the length of the thigh, including the knee, at 2½ units, and, minus the knee, at 2⅓ units; so that here, too, ⅙ of a unit is left for the knee itself.

[32] Kalkmann, *op. cit.*, p. 11.

centuries, we find a system of proportions that anticipates the ones under consideration in expressing the dimensions of the body by one fairly large unit or module.[33] And even though this canon may have been derived from still older sources,[34] its pedigree would not seem to go back beyond the Late-Hellenistic period, that is to say, to a time when the entire picture of the world was transformed, not without oriental influence, in the light of number mysticism; and when, with a general shift from the concrete to the abstract, ancient mathematics itself, culminating and terminating in Diophantus of Alexandria, underwent its arithmetization.[35]

The canon of the "Brethren of Purity" has, as such, nothing to do with artistic practices. Forming part of a "harmonistic" cosmology, it was not supposed to furnish a method for the pictorial rendering of the human figure, but was intended to give insight into a vast harmony that unifies all parts of the cosmos by numerical and musical correspondences. Hence, the data transmitted here do not apply to the adult but to the newborn child, a being who is of only secondary significance for the representational arts but plays a fundamental role in cosmological and astrological thinking.[36] But it is not by accident that the Byzantine studio practice adopted a system of measurement formulated for an entirely different purpose and finally forgot its cosmological origin altogether. Paradoxical though it sounds, an algebraic or numerical system of measurement, reducing the dimensions of the body to a single module, is—provided that the module is not too small—much

[33] F. Dieterici, *Die Propädeutik der Araber*, Leipzig, 1865, p. 135 ff. Here, however, it is not the face-length which is the accepted unit, but the "span" of the hand, which amounts to ⅔ of the face-length.

[34] According to a kind communication from Professor Helmut Ritter, until now no other statements regarding the proportioning of the human body have been found in Arabic sources. Instructions for the proportioning of letters, however, have come down to us; and these, too, are based on a module system rather than on the principle of common fractions.

[35] M. Simon, *Geschichte der Mathematik im Altertum in Verbindung mit antiker Kulturgeschichte*, Berlin, 1909, pp. 348, 357.

[36] The newborn child is, in fact, that being in which the power of the forces controlling the universe, in particular the influence of the stars, is more directly and exclusively effective than in the adult, who is determined by many other conditions.

more compatible with the mediaeval tendency towards schematization than the classical system of common fractions.

The "fractional" system facilitated the objective appreciation of human proportions, but not their adequate representation in a work of art: a canon transmitting relations rather than actual quantities supplied the artist with a vivid and simultaneous idea of the three-dimensional organism, but not with a method for the successive construction of its two-dimensional image. The algebraic system, on the other hand, makes up for the loss of elasticity and animation by being immediately "constructible." When the artist knew, through tradition, that the multiplication of a specific unit could give him all the basic dimensions of the body, he could, by the successive use of such *moduli,* assemble, as it were, each figure on the picture plane "with the opening of the compass unchanged," with very great speed, and almost independently of the organic structure of the body.[37] In Byzantine art this method of a schematic, graphic mastery of the planar design was preserved until modern times: Adolphe Didron, the first editor of the *Painter's Manual of Mount Athos,* saw the monastic artists of the nineteenth century still employing a method whereby they marked off the individual dimensions with the compass and immediately transferred them to the wall.

Consequently, the Byzantine theory of proportions made it its business to determine even the measurements of the details of the head in terms of the module system, taking the length of the nose (= ⅛ the length of the face) as a unit. The length of the nose equals, according to the *Painter's Manual of Mount Athos,* not only the height of the forehead and the lower part of the face (which agrees with the canon of Vitruvius and most Renaissance canons), but also the height of the upper part of the head, the distance from the tip of the nose to the corner of the eye, and the length, down to the

[37] Once the canon is established, it can be successfully applied to seated as well as to standing figures (Fig. 19). In this example, the "face-lengths" are not counted up to the hairline, but to the edge of the kerchief: for a basically non-naturalistic style graphic appearance is more important than the anatomical data. As required by the canon, this face-length automatically determines the length of the hand.

pit, of the throat. This reduction of the vertical and horizontal dimensions of the head to a single unit made feasible a procedure which manifests with particular clarity the mediaeval proclivity for planimetric schematization—a procedure by

2 The "Three-Circle Scheme" of Byzantine and Byzantinizing Art.

means of which not only the dimensions but even the forms could be established *geometrico more.* For, when the measurements of the head, horizontal as well as vertical, were expressible as multiples of a constant unit, the "nose-length," it became possible to determine the entire configuration by three concentric circles which had their common center in the root of the nose. The innermost—with 1 nose-length as radius—outlines the brow and cheeks; the second—with 2 nose-lengths as radius—gives the exterior measurements of the head (including the hair) and defines the lower limit of the face; the outermost—with 3 nose-lengths as radius—passes through the pit of the throat, and generally also forms the halo (Text Ill. 2).[38] This method automatically results in that peculiarly

[38] In addition, the pupils of the eyes usually lie midway between the root of the nose and the periphery of the first circle, and the mouth divides the distance between the first and second circles at a ratio of either 1:1, or (in the Mount Athos canon) 1:2.

exaggerated height and breadth of the cranium which, in the figures of this style, so often creates the impression of a view from above, but can actually be traced back to the use of what may be called "the Byzantine three-circle scheme"—a scheme that shows how little the mediaeval theory of proportions, intent upon only a handy rationalization of the "technical" dimensions, took offense at "objective" inaccuracy. The canon of proportions here appears, not only as a symptom of the *Kunstwollen*, but almost as the carrier of a special stylistic force.[39]

This "three-circle scheme"—in illustration of which we reproduce a page of the same manuscript from which we have borrowed the Madonna reproduced in Fig. 19, and which contains comparatively many constructed heads (Fig. 20)—was exceedingly popular in Byzantine and Byzantinizing art: in Germany[40] as well as in Austria (Fig. 21),[41] in France[42] as well as in Italy,[43] in monumental painting[44] as well as in the minor arts,[45] but above all in innumerable manuscript

[39] In Byzantine painting, even this custom of determining the contour of the head by means of the compass persisted up to modern times; see Didron, *op. cit.*, p. 83, Note.

[40] Numerous examples, e.g., in P. Clemen, *Die romanische Wandmalerei in den Rheinlanden*, Düsseldorf, 1916, *passim*.

[41] See, e.g., P. Buberl, "Die romanischen Wandmalereien im Kloster Nonnberg," *Kunstgeschichtliches Jahrbuch der K. K. Zentral-Kommission . . .*, III, 1909, p. 25 ff., Figs. 61 and 63. For better illustrations, see H. Tietze, *Die Denkmale des Stiftes Nonnberg in Salzburg* (*Oesterreichische Kunsttopographie*, VII), Vienna, 1911. To my knowledge, Buberl was the first to observe the existence of a system of construction in pre-Gothic times. [See now K. M. Swoboda's article cited p. vi.]

[42] See, e.g., *Album de Villard de Honnecourt*, authorized edition of the Bibliothèque Nationale, Pl. XXXII (strongly Byzantinizing even in style).

[43] See, e.g., Pietro Cavallini's heads in S. Cecilia in Trastevere, well reproduced in F. Hermanin, *Le Galerie nazionali d'Italia*, Rome, 1902, V, particularly Pl. II.

[44] Including stained-glass windows; see, e.g., the Apostle windows in the west choir of Naumburg Cathedral.

[45] See, e.g., the enamel reproduced in O. Wulff, *Altchristliche und byzantinische Kunst*, Berlin-Neubabelsberg, 1914, II, p. 602, as well as numerous ivories.

illuminations.[46] And even where—especially in works of small format—an exact construction with compass and ruler does not exist, the very character of the forms frequently indicates their derivation from the traditional scheme.[47]

In Byzantine and Byzantinizing art, the tendency toward planimetrical schematization went so far that even heads turned to three-quarter profile were constructed in analogous manner.[48] Exactly as in the case of the frontal face, the "foreshortened" face was constructed by means of a planar scheme operating with equal modules and circles; and this scheme was made to produce the impression of an effective if quite "incorrect" foreshortening by exploiting the fact that, in a "picture," graphically equal distances may "signify" objectively unequal ones.

Representing, as it were, a supplement to the "three-circle system" employed for the frontal face, this construction of the three-quarter profile was applicable only under the assumption that the head, while being turned, must not be tilted forward but only inclined toward the right or left (Figs. 22, 23).[49] Then, the vertical dimensions remaining unaltered, the task was limited to a schematic foreshortening of the horizontal dimensions, and this could be done under two condi-

[46] See especially A. Haseloff, *Eine thüringisch-sächsische Malerschule des 13. Jahrhunderts*, Strassburg, 1897, particularly Figs. 18, 44, 66, 93, 94.

[47] This scheme (which also occurs in an abbreviated form with only the contours of the head but not the outline of the face determined by means of a compass) was occasionally modified so as to avoid the "unnatural" heightening of the cranium: the ratio of the radii of the three circles was not assumed to be 1:2:3, but 1:1½:2½. Then the height of the cranium is reduced to one unit, and the mouth does not fall in the area between the first and second circles, but lies on the second circle itself. Such is the case of the wall paintings in the Nonnberg Convent Church at Salzburg (cf. Note 41 and Fig. 21), and in several other instances, e.g.—here particularly clearly because of the deterioration of the paint—in the Late-Romanesque Apostle portraits in the southern choir screen of the west (St. Peter) choir in Bamberg Cathedral.

[48] It occurs, e.g., in the head of the Rucellai Madonna in S. Maria Novella but not in that of the Academy Madonna by Giotto.

[49] Madonnas' heads are nearly always inclined toward the right (as seen by the beholder).

tions: first, the customary unit (1 nose-length) must continue to be valid; and, second, it must still be possible, despite the changes in quantity, to determine the contour of the head by a circle with a radius of 2 nose-lengths and the halo (if present) by means of a concentric circle with a radius of 3 nose-lengths. Because of the lateral turning, the center of this circle, or circles, could, of course, no longer coincide with the root of the nose but had to lie within that half of the face which is turned toward us; and in order to be coincident with a characteristic point of the physiognomy, it tended to be transferred either to the outer corner of the eye or eyebrow or to the pupil. If this point, which we shall call *A*, is assumed to be the center of a circle with a radius of 2 nose-lengths, this circle defines the curve of the skull and determines (at *C*) the breadth of the averted half of the face;[50] the effect of "foreshortening" results from the fact that the distance *AC* (amounting to only 2 nose-lengths), which in the strictly frontal view had "signified" only one-half the breadth of the head, "signifies" more than that in the three-quarter view, viz., as much more as point *A* is removed from the median of the face. A further subdivision of the horizontal dimensions can then be achieved by genuine mediaeval schematization, i.e., by the simple bisection and quartering of the distance *AC* (whereby, of course, the objective significance of the points *J*, *D* and *K* differs according to whether the center of the circle lies in the corner or in the pupil of the eye).[51]

The vertical dimensions remain, as we have noted, unaltered: the nose, the lower part of the face and the neck each receive 1 nose-length. But the brow and the upper part of the

[50] In a somewhat rudimentary form this scheme can be shown to have been used in a Romanesque head in St. Mary in Capitol at Cologne (Clemen, *op. cit.*, Pl. XVII): the circle defining the contour of the head can be seen clearly, but the artist did not adhere to it strictly during the execution.

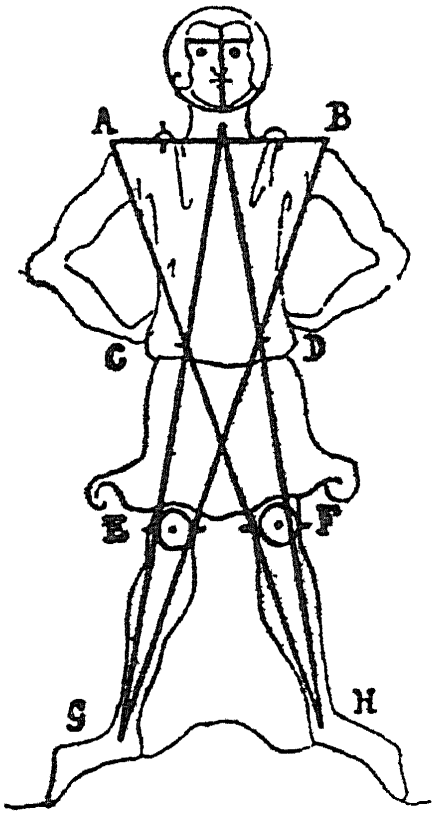
[51] In the former case, *D* (the midpoint of *AC*) designates the inner corner of the left eye, in the latter, its pupil; *I* (the midpoint of *AD*) designates, in the former case, the pupil of the right eye, in the latter, its inner corner. Thus, in both cases a "foreshortening" is suggested by the fact that technically equal quantities "signify" a larger value on the averted side than on the side turned toward us.

head must be satisfied with a smaller dimension, for the root of the nose (*B*), from which the vertical dimensions are determined, is no longer level (as in the frontal head) with the center of the circle which describes the contour of the skull; since it coincides with either the corner of the eye or with the pupil, it must necessarily lie somewhat higher. Consequently, if *AE* is equal to 2 nose-lengths, *BL* must be somewhat less than 2 nose-lengths.

For all its tendency toward schematization, the Byzantine canon was based, at least in some degree, on the organic structure of the body; and the tendency toward geometrical determination of form was still counterbalanced by an interest in dimensions. The Gothic system—one step further removed from the antique—almost exclusively serves to determine the contours and the directions of movement. What the French architect Villard de Honnecourt wants to transmit to his *confrères* as the "art de pourtraicture" is a "méthode expéditive du dessin" which has but little to do with the measurement of proportions, and from the outset ignores the natural structure of the organism. Here the figure is no longer "measured" at all, not even according to head- or face-lengths; the schema almost completely renounced, so to speak, the object. The system of lines—often conceived from a purely ornamental point of view and at times quite comparable to the shapes of Gothic tracery—is superimposed upon the human form like an independent wire framework. The straight lines are "guiding lines" rather than measuring lines: not always coextensive with the natural dimensions of the body, they determine the appearance of the figure only in so far as their position indicates the direction in which the limbs are supposed to move, and as their points of intersection coincide with single, characteristic loci of the figure. Thus the upright male figure (Text Ill. 3) results from a construction that has absolutely no relation to the organic structure of the body: the figure (minus head and arms) is inscribed into a vertically elongated pentagram whose upper vertex is stunted and whose horizontal side *AB* is about one third of the long sides *AH* and *BG*.[52]

[52] Thus a false impression is created when, with regard to these figures by Villard, B. Haendcke, "Dürers Selbstbildnisse und

Then points *A* and *B* coincide with the joints of the shoulders; *G* and *H* with the heels; *J*, the midpoint of line *AB*, determines the location of the pit of the throat; and the points



3 Construction of the Frontal Figure, on the basis of Villard de Honnecourt. Paris, Bibliothèque Nationale, MS. fr. 19093, fol. 19.

which divide the long sides into thirds (*C*, *D*, *E*, and *F*) determine, respectively, the location of the hip and the knee joints.[53]

Even the heads (of humans as well as of animals) are constructed not only from such "natural" forms as circles, but also

---

konstruierte Figuren," *Monatshefte für Kunstwissenschaft*, V, 1912, p. 185 ff. (p. 188), speaks of a "proportional construction of the whole, eight-face figure."

[53] The magical significance of the pentagram certainly plays no more of a role in Villard's *"pourtraicture"* than does the mystical or cosmological significance of the numerical measurements in the Byzantine canon of human proportions.

from the triangle or even from the aforementioned pentagram, which, of itself, is wholly alien to nature.[54] The animal figures —if some kind of articulation is attempted at all—are assembled, in a thoroughly inorganic way, from triangles, squares and circular arcs (Text Ill. 5).[55] And even where an interest in mere proportions seems to prevail (as when the large head reproduced in Fig. 24 is set into a large square subdivided into 16 equal squares, the side of each equaling 1 nose-length as in the Mount Athos canon),[56] an upended square, made up of diagonals and inscribed into the large square (as in the typical ground plan of Gothic finials), immediately introduces a planimetrical, schematizing principle which determines the form rather than the proportions. This very head, by the way, makes us realize that all those things are not, as one might be tempted to suppose, sheer fantasy (as closely as they frequently seem to border on this): a head from a contemporaneous stained-glass window at Rheims (Fig. 25) exactly corresponds to Villard's construction not only as regards the

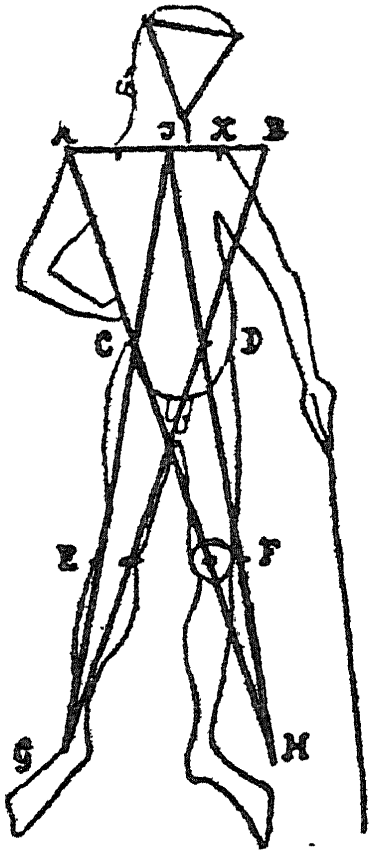
[54] Similar "drawing aids" survive, incidentally, in studio practice up to modern times; see, e.g., J. Meder, *Die Handzeichnung*, Vienna, 1919, p. 254, where this habit is correctly characterized as "mediaeval." It can be observed even in Michelangelo; cf. the drawing K. Frey, *Die Handzeichnungen Michelagniolos Buonarroti*, Berlin, 1909–11, No. 290. A more complete survival of Villard de Honnecourt's *"pourtraicture"* can be observed in a French manuscript of the middle of the sixteenth century (now Washington, D. C., Congressional Library, Department of Arts, ms. 1) where all kinds of animals and humans are schematized in wholly Villardesque fashion—except that, corresponding to the date, the planimetrical method of the thirteenth century is occasionally combined with the sterometrical approach of the Renaissance theorists. [See now Panofsky, *Codex Huygens* (cited p. vi), p. 119, Figs. 97–99.]

[55] Even human figures, when depicted seated or in other unusual positions, are occasionally obtained by a combination of triangles, etc.; see, e.g., Villard, Pl. XLII.

[56] Particularly striking is the heightening of the cranium, which, as in the Mount Athos canon, equals 1 nose-length. That one of Dürer's twenty-six types, too, shows the cranium heightened to 1 nose-length should not be interpreted (with V. Mortet, "La mesure de la figure humaine et le canon des proportions d'après les dessins de Villard de Honnecourt, d'Albert Dürer et de Léonard de Vinci," in *Mélanges offerts à M. Emile Chatelain*, Paris, 1910, p. 367 ff.) as proof of an actual connection.

dimensions[57] but also in that the features of the face are clearly determined by the idea of an upended square.

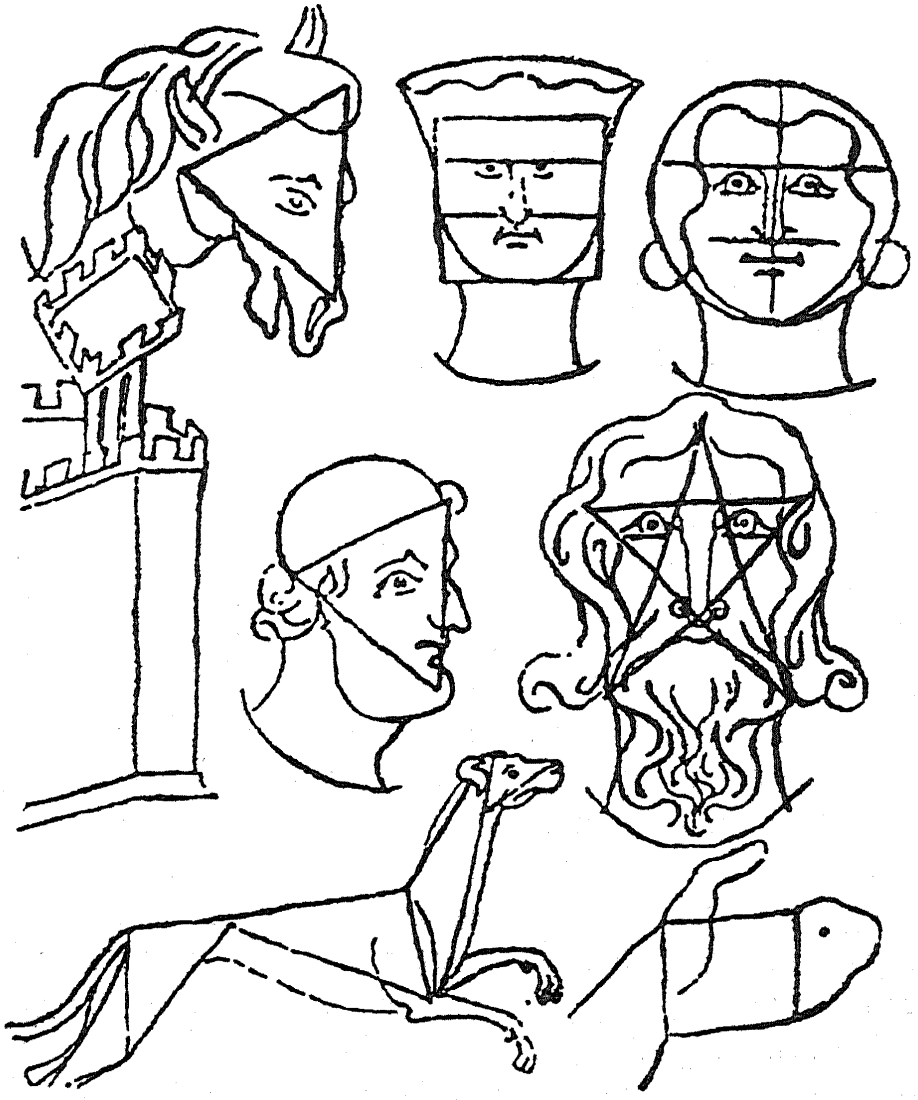
Villard de Honnecourt, like the Byzantine and Byzantinizing artists, made an interesting attempt to apply the schema devised for the construction of the frontal aspect to the three-quarter view; but he attempted to construct whole



4 Construction of the Figure Turned to Three-Quarter Profile, on the basis of Villard de Honnecourt. Paris, Bibliothèque Nationale, MS. fr. 19093, fol. 19.

figures rather than heads and set about it in an even less differentiated and even more arbitrary way (Text Ill. 4). He utilized the pentagram schema, described above, without any alteration, except that he transferred the shoulder joint, previously coincident with point *B*, to point *X*, approximately the midpoint of the distance *JB*. Just as in the Byzantine construction of the three-quarter profile, the impression of "fore-

[57] The only deviation consists in the relative enlargement of the eyeballs.



5 Villard de Honnecourt. Constructed Heads, Hand and Greyhound. Paris, Bibliothèque Nationale, MS. fr. 19093, fol. 18 v.

shortening" is so achieved that the same length is made to "signify," on the side averted from us, as much as half the total width of the torso, viz., the distance from the pit of the throat to the shoulder joint (*JX*), while on the side turned toward us it represents only one quarter of that total width. This curious construction is perhaps the most telling example of a theory of proportions which—"pour légièrement ouvrier" —was exclusively concerned with a geometrical schematization of the "technical" dimensions, whereas the classical theory, proceeding on diametrically opposite principles, had restricted itself to an anthropometric determination of the "objective" dimensions.

IV The practical importance of the procedures just characterized was naturally greatest where the artist was most firmly bound by tradition and the general style of his age: in Byzantine art and in Romanesque.[58] In the following period their use seems to diminish, and the Late Gothic of the fourteenth and fifteenth centuries, relying on subjective observation and equally subjective sentiment, appears to have rejected all constructional aids.[59]

The Italian Renaissance, however, looked upon the theory of proportions with unbounded reverence; but it considered it, unlike the Middle Ages, no longer as a technical expedient but as the realization of a metaphysical postulate.

The Middle Ages, it is true, were thoroughly familiar with a metaphysical interpretation of the structure of the human body. We have seen an example of this way of thinking in the theories of the "Brethren of Purity," and cosmological speculations, centered around the God-ordained correspondence between the universe and man (and, therefore, the ecclesiastical edifice), played an enormous role in the philosophy of the twelfth century. In the writings of St. Hildegard of Bingen a lengthy exposition has been pointed out where the proportions of the human being are thus explained by the harmonious plan of God's creation.[60] However, in so far as the mediaeval theory of proportions followed the line of harmonistic cosmology, it had no relation to art; and in so far as it stood in relation to art, it had degenerated into a code of

[58] Even here this practical importance should not be overestimated. Precisely constructed figures are, on the whole, in a minority as against those drawn in freehand, and even where the artists were careful to construct the guide lines, they frequently digressed from them during the execution (cf., e.g., Fig. 20, or the figure in St. Mary in Capitol referred to in Note 50).

[59] The fairly frequent indication of a central vertical which, as it were, supports the figure cannot be looked upon as either an aid to construction or as an expedient for determining the proportions.

[60] Pater Ildefons Herwegen, "Ein mittelalterlicher Kanon des menschlichen Körpers," *Repertorium für Kunstwissenschaft*, XXXII, 1909, p. 445 ff. Cf. also the Chronicle of St.-Trond (G. Weise in *Zeitschrift für Geschichte der Architektur*, IV, 1910–11, p. 126). There is hardly any doubt that a more thorough investigation of the sources would bring to light much more of the same in the West.

practical rules[61] which had lost all connection with harmonistic cosmology.[62]

Only in the Italian Renaissance did the two currents merge again. In an era in which sculpture and painting began to achieve the position of *artes liberales*, and in which practicing artists tried to assimilate the entire scientific culture of their epoch (while, conversely, scholars and men of letters sought to understand the work of art as a manifestation of the highest and most universal laws), it was only natural that even the practical theory of proportions should be reinvested with metaphysical meaning. The theory of human proportions was seen as both a prerequisite of artistic production and an expression of the pre-established harmony between microcosm and macrocosm; and it was seen, moreover, as the rational basis of beauty. The Renaissance fused, we may say, the cosmological interpretation of the theory of proportions, current in Hellenistic times and in the Middle Ages, with the classical notion of "symmetry" as the fundamental principle of aesthetic perfection.[63] As a synthesis was sought between

[61] Cf., once more, Villard's phrase "manière pour légièrement ouvrier." It is characteristic of the mediaeval theory of proportions that the *Painter's Manual of Mount Athos* furnishes specific information as to how much the width of the clothed figure should exceed that of the unclothed (½ of a unit "should be added" for the draperies).

[62] That originally there had been such a connection is plausible on historical grounds (cf. above, p. 77 f.). Even the change from a ten-face type in favor of a nine-face type may have been based on number mysticism or cosmological lines of thought (theory of the spheres?). [See now F. Saxl, cited p. vi.]

[63] Julius von Schlosser has shown that one of the earliest post-classical champions of this doctrine, Ghiberti, derived it—possibly through a Western intermediary, for which see below—from an Arabic source, the *Optica* of Alhazen. Even more interesting, however, is the fact that Ghiberti, while drawing from Alhazen, yet promoted the idea of proportionality to an entirely different status. Alhazen does not look upon proportionality as "the" fundamental principle of beauty; rather he mentions it, as one might say, *en passant*. In his remarkable excursus on what we would call aesthetics, he enumerates no fewer than twenty-one principles or criteria of beauty because, according to him, there is no category of optical perception (such as light, color, size, position, continuity, etc.) which cannot operate as an aesthetic criterion under certain

the mystical spirit and the rational, between Neo-Platonism and Aristotelianism, so was the theory of proportions interpreted both from the point of view of harmonistic cosmology and normative aesthetics; it seemed to bridge the gap between Late-Hellenistic fantasy and classical, Polyclitan order. Perhaps the theory of proportions appeared so infinitely valuable to the thinking of the Renaissance precisely because only this theory—mathematical and speculative at the same time—could satisfy the disparate spiritual needs of the age.

Thus doubly and trebly sanctified (as an additional value we have to consider the historical interest which the "heirs to antiquity" were bound to take in the scanty allusions of the classical authors for the sole reason that these authors were classical),[64] the theory of proportions achieved an unheard-of

---

conditions; and in the context of this long list there appears, quite inorganically connected with the other "categories," the paean to the "relationship of the parts." Ghiberti, then, ignored all the other categories and—with a remarkable instinct for that which is classical—appropriated only the passage in which the catchword "proportionality" occurs.

Alhazen's aesthetics is remarkable, by the way, not only for the division of the beautiful into as many criteria as there are categories of visual experience but, above all, for its pervasive relativism. Distance can be conducive to beauty in that it subdues imperfections and irregularities; but the same is true of proximity in that it renders effective the refinements of the design, etc. (cf., by way of contrast, the absolutism of the Stoics [Aëtius, *Stoicorum veterum Fragmenta*, J. ab Armin, ed., Leipzig, II, 1903, p. 299 ff.]: "the" most beautiful color is dark blue, "the" most beautiful shape is the sphere, etc.). On the whole, the pertinent passage of the *Optica* (which was taken over word for word, and not selectively, by a mediaeval writer like Vitellio) deserves the attention of the Orientalists if only because so purely aesthetic an approach to beauty seems to be foreign to other Arabic thinkers; see, for example, Ibn Chaldûn (Khaldoun), *Prolegomena* (French translation in *Notices et Extraits de la Bibliothèque Impériale*, Paris, 1862–65, XIX–XX), Vol. II, p. 413: ". . . and this [viz., the correct proportion, here used in a moral as well as aesthetic sense] is what is meant by the term beautiful *and good*."

[64] Vitruvius, so zealously exploited and interpreted by Renaissance writers, had not been unfamiliar to the Middle Ages (cf. Schlosser, *op. cit.*, p. 33 [and now H. Koch, cited p. vi]); but it is precisely the specifications of the proportions which were generally neglected by the mediaeval writers. As a rule, they transmit, be-

prestige in the Renaissance. The proportions of the human body were praised as a visual realization of musical harmony;[65] they were reduced to general arithmetical or geometrical principles (particularly the "golden section," to which this period of Plato worship attached a quite extravagant importance);[66] they were connected with the various classical gods, so that they seemed to be invested with an antiquarian and historical, as well as with a mythological and

---

sides the division of the face into thirds, only the familiar statement about the inscribability of the human figure into a square and a circle (a statement which lent itself to cosmological interpretation), and no attempt was made to test Vitruvius' data empirically or even to amend the obvious corruption in his text (see Notes 16 and 83); Ghiberti proposes to describe the circle around the figure not from the navel, but from the crotch; Cesare Cesariano, *M. Vitruvio Pollione, De Architettura Libri Decem,* Como, 1521, fols. XLIX and I, utilized the Vitruvian division of the face into three equal parts, each of which is 1/30 of the total length, for charting a "calibrated grid" comprising the entire figure, etc.

[65] Cf., e.g., Pomponius Gauricus, *De sculptura* (H. Brockhaus, ed., Vienna, 1886, p. 130 ff.). Furthest in this respect goes a work published at Venice in 1525, *Francisci Giorgii Veneti de harmonia mundi totius cantica tria.* That the writer (the same Francesco Giorgi who furnished the well-known report on S. Francesco della Vigna at Venice) infers from the possibility of inscribing the human figure in a circle—whose center he, like Ghiberti, transfers to the crotch—a correspondence between microcosm and macrocosm is not unusual. But he also connects the height, width and depth relationships within the human body with the dimensions of Noah's ark (300:50:30) and very seriously equates particular proportions with the antique musical intervals, for instance:

Total length : length minus the head = 9:8 (*tonus*)

Length of torso : length of the legs = 4:3 (*diatessaron*)

Chest (from pit of throat to navel) : abdomen = 2:1 (*diapason*), etc.

The writer owes his knowledge of Francesco Giorgi's book, which, though hardly ever quoted in art-historical literature, is not unimportant because of its possible connection with Dürer's theory of proportions (cf. below, p. 100, Note 92), to what used to be the Bibliothek Warburg at Hamburg and is now the Warburg Institute of London University.

[66] Cf. e.g., Luca Pacioli, *La divina proportione,* C. Winterberg, ed. (*Quellenschriften für Kunstgeschichte,* new ser., II), Vienna, 1889, p. 130 ff. Further: Mario Equicola, *Libro di natura d'amore,* here quoted from the Venice edition, 1531, fol. 78 r/v.

astrological, significance.[67] And new attempts were made—in connection with a remark by Vitruvius—to identify human proportions with those of buildings and parts of buildings, in order to demonstrate both the architectonic "symmetry" of the human body and the anthropomorphic vitality of architecture.[68]

This high evaluation of the theory of proportions was, however, not always matched by a readiness to perfect its methods. The more enthusiastic the Renaissance authors wax about the metaphysical significance of human proportions, the less disposed they seem, as a rule, to empirical study and verification. What they actually produced was generally little more than a recapitulation (at most, an emendation) of Vitruvius or, even more often, a reproduction of the nine-units system already known to Cennini. Only occasionally did they attempt to specify the measurements of the head by a new method[69] or, to keep up with the conquest of the third dimension, sought to supplement the statements about length and width with statements about depth.[70] One senses the dawn of a new era chiefly in that the theoreticians began to check the Vitruvian data by measuring classical statues—whereby they found them, at first, to be confirmed in all respects[71] but later arrived, occasionally, at divergent results;[72] and in that at least a few of them, often with reference to classical

[67] Giovanni Paolo Lomazzo, *Trattato dell' arte della pittura,* Milan, 1584 (reprinted Rome, 1844), Book IV, Ch. 3; Book I, Ch. 31.

[68] Thus, e.g., Filarete, *op. cit.;* further, L. B. Alberti, *De re aedificatoria,* VII, Ch. 13; after him, Giannozzo Manetti (ed. Muratori, *SS. rer. Ital., III,* Part II, p. 937); Lomazzo, *op. cit.,* Book I, Ch. 30, etc. Such correspondences are particularly noteworthy when an attempt is made to illustrate them pictorially, as, for example, in the "Codex Angelo da Cortina," now in the Stadtbibliothek at Budapest, or by Francesco di Giorgio Martini (treatise cited above, Note 30), Plate Volume, Pl. I.

[69] See Ghiberti, *loc. cit.,* who, incidentally, repeats the Vitruvian canon in addition to his own; cf. also Luca Pacioli, *loc. cit.*

[70] This applies to Pomponius Gauricus who—certainly under the influence of Leonardo da Vinci, noticeable also in other respects—gives, comparatively speaking, more detailed information than do the other writers.

[71] Luca Pacioli, *op. cit.,* pp. 135–36.

[72] Cesare Cesariano, *op. cit.,* fol. XLVIII.

mythology, insisted upon a certain differentiation of the ideal canon.

The coexistence of the Vitruvian and the pseudo-Varronic traditions implied, *per se*, two different types, one comprising nine face-lengths, the other ten; and when these types were supplemented by an even shorter one, the theorists arrived at a triad which could be related, according to taste, with specific gods,[73] with the three styles of classical architecture,[74] or with the categories of nobility, beauty, and grace.[75] It is significant, however, that our expectation to see these types elaborated in detail is nearly always disappointed. When it comes to exact, individual measurements, the authors either fall silent, or, while recognizing a plurality of types, single out one which, at second glance, turns out to be identical with one of the old stand-bys—the canons of Vitruvius and Cennini.[76] And if the First Book of Lomazzo's *Trattato della pittura* stands out for both its great variety of types and for its exact specification of their measurements, it owes this distinction to the simple fact that Lomazzo, writing as late as 1584, had predecessors whom he could exploit in reckless fashion: the man of nine head-lengths (Ch. 9) is identical with Dürer's "Type D," the one of eight head-lengths (Ch. 10) with Dürer's "Type B," that of seven head-lengths (Ch. 11) with Dürer's "Type A," the very slender man (Ch. 8) with Dürer's "Type E," etc.

As far as solid knowledge and methodical procedure are concerned, only two artist-theoreticians of the Italian Renaissance took decisive steps toward developing the theory of proportions beyond mediaeval standards: Leone Battista Alberti, the prophet of the "new, grand style," in art, and Leonardo da Vinci, its inaugurator.[77]

[73] See Lomazzo, *op. cit.*, IV, 3. His identification of the pagan gods with Christian characters was anticipated by Dürer.

[74] Filarete, *loc. cit.*; cf. also Francesco Giorgi, *op. cit.*, I, p. 229 ff., where a nine-head type is distinguished from a seven-head type.

[75] Thus, Federigo Zuccari (cf. Schlosser, *Die Kunstliteratur*, Vienna, 1924, p. 345 f.).

[76] Identical with the latter is, e.g., Filarete's "Doric" man who, oddly enough, is slenderer than the "Ionic" and the "Corinthian."

[77] It is hoped that Bramante's studies on proportions, whose existence is attested to in literary references, will be discovered in the future.

Both agree in their determination to raise the theory of proportions to the level of an empirical science. Dissatisfied with the inadequate data of Vitruvius and their own Italian forerunners, they disregarded tradition in favor of an experience supported by the accurate observation of nature. Italians that they were, they did not attempt to replace the one, ideal type with a plurality of "characteristic" ones. But they ceased to determine this ideal type on the basis of a harmonistic metaphysics or by accepting the data of sanctified authorities: they ventured to face nature herself and approached the living human body with compass and ruler, except that from a multitude of models they selected those which, in their own judgment and in the opinion of competent advisers, were deemed the most beautiful.[78] Their intention was to discover the ideal in an attempt to define the normal, and instead of determining the dimensions only roughly and only in so far as they were visible on the plane, they sought to approach the ideal of a purely scientific anthropometry by ascertaining them, with great exactitude and careful regard to the natural structure of the body, not only in height but also in width and depth.

Alberti and Leonardo, then, supplemented an artistic practice which had freed itself from mediaeval restrictions by a theory of proportions which accomplished more than to provide the artist with a planimetric schema of design—a theory which, based on empirical observation, was capable of defining the normal human figure in its organic articulation and in full three-dimensionality. These two great "moderns" differed, however, in one important respect: Alberti tried to attain the common goal by perfecting the method—Leonardo, by expanding and elaborating the material. With the open-mindedness that characterizes his approach even to the antique,[79] Alberti freed himself, as far as method is concerned, from

[78] Alberti, *op. cit.*, p. 201. Leonardo (*Leonardo da Vinci, das Buch von der Malerei*, H. Ludwig, ed. [*Quellenschriften für Kunstgeschichte*, XV–XVII], Vienna, 1881, Articles 109 and 137) even admits the validity of general public opinion (cf. Plato, *Politicus*, 602b).

[79] See also, e.g., Dagobert Frey, *Bramantestudien*, I, Vienna, 1915, p. 84.

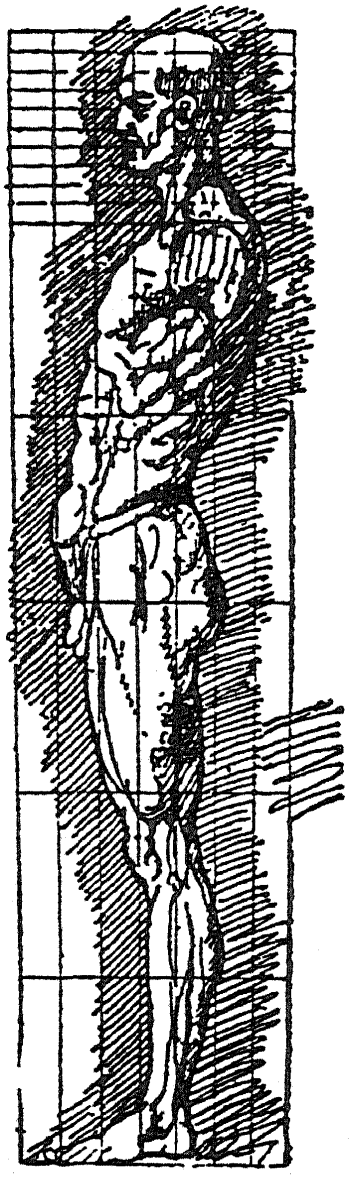
every tradition. He devised—only loosely attaching his procedure to Vitruvius' statement that the foot is equal to one sixth of the total length of the body—a new, ingenious system of mensuration which he called "Exempeda": he divided the total length into six *pedes* (feet), sixty *unceolae* (inches), and six hundred *minuta* (smallest units)[80]—with the result that he could easily yet accurately obtain and tabulate the measurements taken from the living model (Text Ill. 6); the quantities could even be added and subtracted like decimal fractions—which indeed they are. The advantages of this new system are obvious. The traditional units—*teste* or *visi*—were too large for detailed mensuration.[81] To express the measurements in common fractions of the total length was cumbersome because it is impossible to determine how many times an unknown length is contained in a known one without prolonged experimentation (it took the *unica et infinita diligentia* of a Dürer to operate in this fashion without losing patience). And to apply commercial standards of measurement (such, for example, as the "Florentine cubit" or the "Roman *canna*") and their subdivisions would have been fruitless when the purpose of the undertaking was to ascertain, not the absolute, but the relative dimensions of the object: the artist could benefit only by a canon which enabled him to represent his figure on any scale required.

The results obtained by Alberti himself are, it must be admitted, somewhat scanty; they consist of one single table of measurements which, however, Alberti claims to have verified by investigating a considerable number of different persons.[82] Leonardo, instead of refining the method of measure-

[80] Alberti, *op. cit.*, p. 178 ff. The term "Exempeda" is supposed to derive from the verb ἐξεμπεδόω ("to observe strictly"); according to others, it is intended to convey, in somewhat questionable Greek, the idea of a "six-foot system."

[81] Alberti's system, on the other hand, was in many respects too intricate for practical use. In practice, most artists had recourse to the unit of a *testa* divided into halves or thirds; cf. the well-known Michelangelo drawing, Thode 532 (photogr. Braun 116). According to his own statement, Michelangelo's interests were, in fact, directed less toward the compilation of numerical measurements, than toward the observation of *atti e gesti*.

[82] Alberti, *op. cit.*, p. 198 ff.



6 Follower of Leonardo da Vinci. Figure Proportioned according to L. B. Alberti's "Exempeda." Drawing in the *Codex Vallardi.* Phot. Giraudon, No. 260; the subdivision of the upper section entered by the writer.

ment, concentrated on enlarging the field of observation. When dealing with human—as opposed to equine—proportions, he mostly resorted, after the model of Vitruvius and in sharp contrast to all other Italian theorists,[83] to the method of common fractions without, however, entirely rejecting the

[83] Whom he excerpted and emended (Richter, *The Literary Works of Leonardo da Vinci,* London, 1883, No. 307, Pl. XI). The fact that Lomazzo used the method of common fractions is based on his direct dependence upon Dürer (cf. above, p. 93).

"Italo-Byzantine" division of the body into nine or ten face-lengths.[84] He could be satisfied with these relatively simple methods because he interpreted the prodigious amount of visual material which he collected (without, unfortunately, ever synthesizing it) from an entirely original point of view. Identifying the beautiful with the natural, he sought to ascertain, not so much the aesthetic excellence as the organic uniformity of the human form; and for him, whose scientific thinking was largely dominated by analogy,[85] the criterion for this organic uniformity consisted in the existence of "correspondences" between as many as possible, though often completely disparate, parts of the body.[86] Thus, most of his statements are couched in the form: "da *x* a *y* è simile a lo spatio che è infra *v* e *z*" ("the distance *xy* equals the distance *vz*"). Above all, however, he extended the very aims of anthropometry in a novel direction: he embarked upon a systematic investigation of those mechanical and anatomical processes by which the objective dimensions of the quietly upright human body are altered from case to case, and thereby fused the theory of human proportions with a theory of human movement. He determined the thickening of the joints while flexing or the expansion and contraction of the muscles which attends the bending or stretching of the knee or the elbow, and ulti-

[84] In Leonardo's studies both types—one corresponding to the Vitruvian proportions, the other to the Cennini-Gauricus canon—coexist without differentiation so that it is often difficult or impossible to connect a particular statement with either the one or the other. [For Leonardo's far more elaborate system of measuring the proportions of the horse, see now E. Panofsky, *The Codex Huygens and Leonardo da Vinci's Art Theory* (Studies of the Warburg Institute, XIII), London, 1940, p. 51 ff.]

[85] Cf. L. Olschki, *Geschichte der neusprachlichen wissenschaftlichen Literatur*, I, Heidelberg, 1919, p. 369 ff. I do not agree, however, with Olschki's interpretation of Leonardo on all points.

[86] Cf. E. Panofsky, *Dürers Kunsttheorie*, Berlin, 1915, p. 105 ff. The method of "determining analogies" was adopted by Pomponius Gauricus and, among others, Affricano Colombo, who appended to his small book on the planets (*Natura et inclinatione delle sette Pianeti*) a theory of proportions for painters and sculptors (completely based on Vitruvius in every other respect). His fusing of astrological doctrines with the theory of proportions is a characteristic attempt at reinterpreting Leonardo's scientific naturalism in the spirit of cosmological mysticism.

mately managed to reduce all movements to a general principle which may be described as the principle of continuous and uniform circular motion.[87]

These two developments throw light on what is perhaps the most fundamental difference between the Renaissance and all previous periods of art. We have repeatedly seen that there were three circumstances which could compel the artist to make a distinction between the "technical" proportions and the "objective": the influence of organic movement, the influence of perspective foreshortening, and the regard for the visual impression of the beholder. These three factors of variation have one thing in common: they all presuppose the artistic recognition of subjectivity. Organic movement introduces into the calculus of artistic composition the subjective will and the subjective emotions of the thing represented; foreshortening, the subjective visual experience of the artist; and those "eurhythmic" adjustments which alter that which is right in favor of that which seems right, the subjective visual experience of a potential beholder. And it is the Renaissance which, for the first time, not only affirms but formally legitimizes and rationalizes these three forms of subjectivity.

In Egyptian art only the objective had counted because the represented beings did not move from their own volition and consciousness, but seemed, by virtue of mechanical laws, to be eternally arrested in this or that position; because no foreshortening took place; and because no concessions were made to the visual experience of the beholder.[88] In the Middle Ages, art espoused, as it were, the cause of the plane against that of the subject as well as that of the object, and produced that style in which, though "actual"—as opposed to "potential"—movement took place, the figures seemed to act under the in-

[87] *Trattato della pittura*, Article 267 ff. Alberti had already observed (*op. cit.*, p. 203) that the breadth and thickness of the arm change according to its movement; but he had not as yet attempted to determine the extent of these changes numerically. [For Leonardo's theory of circular movement, see now Panofsky, *The Codex Huygens*, pp. 23 ff., 122 ff., Figs. 7–13.]

[88] Setting aside all stylistic considerations, we must bear in mind that the most important Egyptian works of art were not created for the purpose of being seen; they were placed in dark, inaccessible tombs, removed from every view.

fluence of a higher power rather than of their own free will; and in which, though the bodies turn and twist in various ways, no real impression of depth is achieved or intended. Only in classical antiquity did the three subjective factors of organic movement, perspective foreshortening and optical adjustment attain recognition; but—and this is the fundamental difference—such recognition was, so to speak, unofficial. Polyclitan anthropometry was not paralleled by an equally developed theory of movement nor by an equally developed theory of perspective: whatever foreshortening is encountered in classical art does not result from the interpretation of the visual image as a central projection constructible by strict geometrical methods; and the adjustments intended to rectify the view for the beholder were, so far as we know, handled only "by rule of thumb." It was, therefore, a fundamental innovation when the Renaissance supplemented anthropometry with both a physiological (and psychological) theory of movement and a mathematically exact theory of perspective.[89]

Those who like to interpret historical facts symbolically may recognize in this the spirit of a specifically "modern" conception of the world which permits the subject to assert itself against the object as something independent and equal; whereas classical antiquity did not as yet permit the explicit formulation of this contrast; and whereas the Middle Ages believed the subject as well as the object to be submerged in a higher unity.

The actual transition from the Middle Ages to the Renaissance (and, in a sense, beyond it) can be observed, as under laboratory conditions, in the development of the first German theorist of human proportions: Albrecht Dürer. Heir to the Northern, Gothic tradition, he started out with a planimetrical

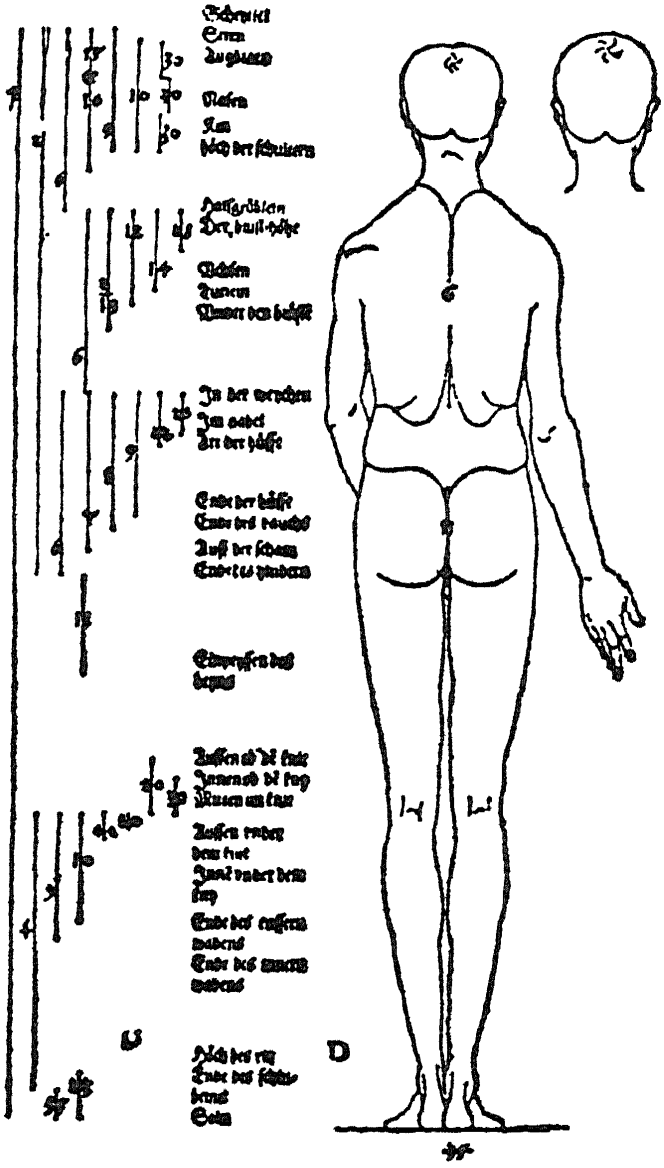
[89] In the Renaissance even the "eurhythmic" alterations to which the measurements had to be subjected in works placed above eye level (or, for example, on vaulted surfaces) were determined by means of exact geometrical construction. See Leonardo's directions for painting objects on curved walls (Richter, *op. cit.*, Pl. XXXI; *Trattato*, Article 130), or Dürer's directions for the scaling of letters which, though placed on different levels, would appear to be of equal size (*Underweysung der Messung . . .*, 1525, fol. K. 10); Dürer's method, transferred from wall inscriptions to mural paintings, is repeated in Barbaro, *op. cit.*, p. 23.

surface scheme (at the beginning not even incorporating the Vitruvian data) which, like Villard's "pourtraicture," purported to determine posture, movement, contour and proportions at the same time (Fig. 26).[90] Under the influence of Leonardo and Alberti, however, he shifted his aims towards a purely anthropometric science which he believed to have an educational rather than practical value: "In the rigid postures in which they are drawn up on the foregoing pages," he says of his numerous, elaborate paradigms, "the figures are of no use whatever."[91] In his disciplined and unrewarding pursuit of knowledge for its own sake, Dürer employed the classical and Leonardesque method of common fractions (Text Ill. 7) in the First and Second Book, and Alberti's "Exempeda" (whose smallest unit, $\frac{1}{600}$, he split into three further subdivisions)[92] in the Third. But he surpassed both great Italians

[90] It is this structural affinity rather than the fortuitous correspondence observed by Mortet (cf. above, Note 56) which constitutes an intrinsic relationship between Dürer and the Middle Ages, especially Villard de Honnecourt. H. Wölfflin (in *Monatshefte für Kunstwissenschaft*, VIII, 1915, p. 254) would therefore seem to overstate the case when he says that Mortet had correctly recognized the connection between Dürer's early studies in human proportion and Gothic tradition. It may be mentioned here that Dr. Edmund Schilling has succeeded in discovering circular arcs, traced with the compass, in the Sebastian drawing L.190 which this writer had claimed as belonging to the series of constructed drawings beginning with L.74/75 (our Fig. 26).

[91] "Dann die Bilder döchten so gestrackt, wie sie vorn beschrieben sind, nichts zu brauchen." Cf. Panofsky, *Dürers Kunsttheorie*, p. 81 ff., especially p. 89 ff. and 111 ff.

[92] It is a moot question as to how Dürer became familiar with Alberti's "Exempeda," since the *De Statua*, in which it is described, was not published until many years after Dürer's death. Conceivably Dürer's source can be identified with the *Harmonia mundi totius* by Francesco Giorgi (see above, Note 65); this work contains (fol. C.1) a circumstantial description of Alberti's method, which—apart from one terminological misunderstanding—is fairly accurate and amounts to a direct quotation: "Attendendum est ad mensuras, quibus nonnulli microcosmographi metiuntur ipsum humanum corpus. Dividunt enim id per sex pedes . . . et mensuram unius ex iis pedibus hexipedam [!] vocant. Et hanc partiuntur in gradus decem, unde ex sex hexipedis gradus sexaginta resultant, gradum vero quemlibet in decem . . . minuta." "Attention must be paid to the measurements which certain microcosmographers



7 Albrecht Dürer, "Man D." From the First Book of *Vier Bücher von menschlicher Proportion*, Nuremberg, 1528.

not only by the variety and precision of his measurements, but also by a genuinely critical self-limitation. Firmly renouncing the ambition to discover one ideal canon of beauty, he undertook the infinitely more laborious task of setting up various

---

apply to the human body itself. They divide it into six feet . . . and the measure of one of these feet they call *exempeda* [!]. This measure they divide into ten parts [*gradus*, called *unceolae* by Alberti]; so that six feet total sixty parts, and each part into ten smallest units [*minuta*, the authentic Albertian term]." The author himself, however, prefers a division into 300 rather than 600 *minuta*, in order to preserve the aforementioned (Note 65) correspondences

"characteristic" types which—each in its own way—should "avoid crude ugliness." He accumulated no fewer than twenty-six sets of proportions, plus an example of the infant's body and the detailed measurements of the head, the foot and the hand.[93] Not satisfied with even this, he indicated ways and means of further varying these many types so as to capture even the abnormal and grotesque by strictly geometrical methods (Text Ill. 8).[94]

Dürer, too, attempted to supplement his theory of mensuration with a theory of movement (which, however, turned out to be rather awkward and mechanical[95] because of his lack of anatomical and physiological knowledge) and with a theory of perspective.[96] Since he, like the great Italian painter-theoreticist, Piero della Francesca, wanted to see perspective applied to human figures as well as to inanimate objects, he attempted to facilitate this very complicated process by reducing the irrational surfaces of the human body to shapes definable by simple planes,[97] and it is extraordinarily informa-

---

between the human body and Noah's ark. The publication date of Francesco Giorgi's work, 1525, would agree with our hypothesis, since it can be proved (cf. Panofsky, *Dürers Kunsttheorie,* p. 119) that Dürer first became acquainted with the "Exempeda" between 1523 and 1528. [Agrippa of Nettesheim may have drawn from the same source, since he refers to the "Exempeda" system in the printed edition of his *De occulta philosophia* (published in 1531), II, 27, but not in the original version of 1509.]

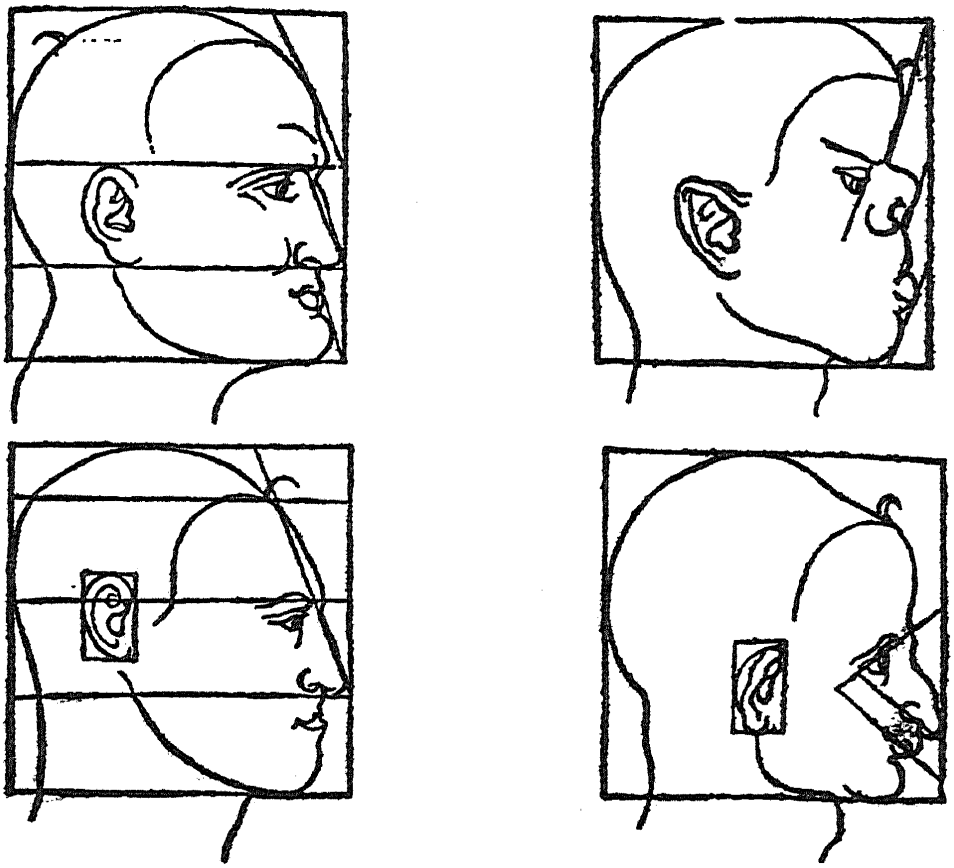
[93] Albrecht Dürer, *Vier Bücher von menschlicher Proportion,* Nuremberg, 1528, Books I and II.

[94] *Ibidem,* Book III.

[95] *Ibidem,* Book IV.

[96] Albrecht Dürer, *Underweysung der Messung mit dem Zirckel und Richtscheyt,* Nuremberg, 1525, fol. P.L.v. ff.

[97] Dürer, *Vier Bücher . . .* , Book IV, and numerous drawings. I am referring to the famous "cube system" which, according to Lomazzo, goes back to Foppa, and which was later taken up and developed by Holbein, Altdorfer, Luca Cambiaso, Erhard Schön, and others (cf. Meder, *op. cit.,* p. 624, Figs. on pp. 319, 619, 623). This system is related to Dürer's drawings of heads the surfaces of which are reduced to polygons (illustrated in Meder, *op. cit.,* p. 622), a device which the present writer has tried to trace back to Italian sources (*Kunstchronik,* new ser., XXVI, 1915, col. 514 ff.) and to which Meder (p. 564, Fig. 267) has produced a more conclusive analogy.



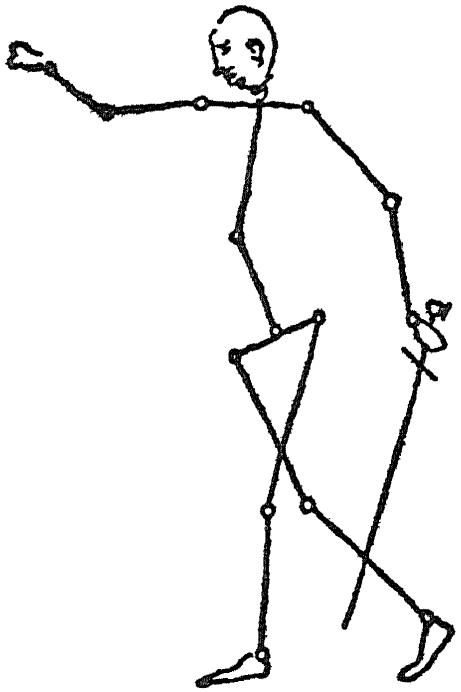
8 Albrecht Dürer. Four Caricatured Profiles. From the Third Book of *Vier Bücher von menschlicher Proportion,* Nuremberg, 1528.

tive to compare these schemes, elaborated in the twenties, with the constructions of *ca.* 1500 (Fig. 26). Instead of interfering with the final representation, the later Dürer only prepares it; instead of defining contours by circular arcs, he inscribes plastic units into stereometrical solids; to a mathematical schematization of linear design he opposes a mathematical clarification of plastic concepts (Fig. 27).[98]

v Dürer's *Vier Bücher von menschlicher Proportion* marks a climax which the theory of proportions had never reached

[98] In another way, likewise no longer planimetric, the figure in motion is schematized in a series of drawings, ascribed to Erhard Schön, an example of which is reproduced in Text Ill. 9 (reproductions also in Fr. W. Ghillany, *Index rarissimorum aliquot librorum, quos habet bibliotheca publica Noribergensis,* 1846, p. 15). For the method followed in these drawings, cf. the illustration in Leonardo's *Trattato,* Article 173.

before nor was to reach ever after. It also marks, however, the beginning of its decline. Dürer himself succumbed, to a degree, to the temptation of pursuing the study of human proportions as an end in itself: by their very exactitude and complexity his investigations went more and more beyond the



9 Erhard Schön (?). Schematization of Human Movement (tracing). Nuremberg, Stadtbibliothek, Cod. Cent. V. App. 34aa, fol. 82.

bounds of artistic usefulness, and finally lost almost all connection with artistic practice. In his own work, the effect of this overdeveloped anthropometric technique is less noticeable than that of his first, imperfect endeavors. And if we remember that the smallest unit of his metrical system, the so-called "particle" (*Trümlein*), was equal to less than a millimeter, the chasm between theory and practice becomes obvious.

What follows Dürer's efforts in the theory of human proportions as a branch of the theory of art is, therefore, on the one hand a series of such insignificant workshop productions, all more or less dependent on his *opus maius*, as the booklets

by Lautensack,[99] Beham,[100] Schön,[101] van der Heyden,[102] or Bergmüller;[103] and, on the other, such aridly dogmatic works as those of a Schadow[104] or a Zeising.[105] But while his methods did not serve, as he had hoped, the cause of art, they proved invaluable for the development of such new sciences as anthropology, criminology and—most surprisingly—biology.[106]

This final development of the theory of proportions corresponds, however, to the general evolution of art itself. The artistic value and significance of a theory exclusively concerned with the objective dimensions of bodies contained within definable boundaries could not but depend on whether or not the representation of such objects was recognized as the essential goal of artistic activity. Its importance was bound to diminish in proportion as the artistic genius began to emphasize the subjective conception of the object in preference to the object itself. In Egyptian art, the theory of proportions meant almost everything because the subject meant almost nothing; it was doomed to sink into insignificance as soon as this relation was reversed. The victory of the subjective principle was prepared, we recall, by the art of the fifteenth century, which affirmed the autonomous mobility of the things represented and the autonomous visual experience

[99] H. Lautensack, *Des Circkels und Richtscheyts, auch der Perspectiva und Proportion der Menschen und Rosse kurtze doch gründliche Underweisung*, Nuremberg, 1564.

[100] H. S. Beham, *Dies Büchlein zeyget an . . . ein Mass oder Proporcion des Ross*, Nuremberg, 1528; *idem*, *Kunst und Lere Büchlein . . .*, Frankfurt, 1546 (and frequently thereafter); cf. also his engravings, p. 219–21.

[101] E. Schön, *Underweysung der Proportion und Stellung der Possen*, Nuremberg, 1542 (facsimile edition, L. Baer, ed., Frankfurt, 1920).

[102] J. van der Heyden, *Reissbüchlein . . .*, Strassburg, 1634.

[103] J. G. Bergmüller, *Anthropometria oder Statur des Menschen*, Augsburg, 1723.

[104] G. Schadow, *Polyclet oder von den Massen der Menschen*, Berlin, 1834 (11th ed., Berlin, 1909).

[105] A. Zeising, *Neue Lehre von den Proportionen des Körpers*, Leipzig, 1854; *idem*, *Aesthetische Forschungen*, Frankfurt, 1855.

[106] I am referring to the very serious revival of Dürer's doctrine of "geometrical variation" (*Vier Bücher . . .*, Book III) in D'Arcy W. Thompson's famous book *On Growth and Form*, first published in 1917.

of the artist as well as the beholder. When, after the "revival of classical antiquity" had spent its momentum, these first concessions to the subjective principle came to be exploited to the full, the role of the theory of human proportions as a branch of art theory was finished. The styles that may be grouped under the heading of "pictorial" subjectivism—the styles most eloquently represented by seventeenth-century Dutch painting and nineteenth-century Impressionism—could do nothing with a theory of human proportions, because for them solid objects in general, and the human figure in particular, meant little in comparison with the light and air diffused in unlimited space.[107] The styles that may be grouped under the heading of "non-pictorial" subjectivism—pre-Baroque Mannerism and modern "Expressionism"—could do nothing with a theory of human proportions, because for them the solid objects in general, and the human figure in particular, meant something only in so far as they could be arbitrarily shortened and lengthened, twisted, and, finally, disintegrated.[108]

[107] To Northern art this applies at an even earlier date (fifteenth and sixteenth centuries), except for such artists as Dürer and his followers who fell under the spell of classical tendencies.

[108] Cf. Michelangelo's statement referred to in Note 81. Even in the theoretical literature on art which, as such, necessarily gravitates toward "objectivistic" classicism, a waning of the interest in a scientific theory of proportions can be observed in certain places and at certain times. Vincenzo Danti, the epigone of Michelangelo, planned a work (published only in small excerpts) which, despite its title *Delle perfette proportioni*, does not proceed mathematically but approaches the subject from an anatomical, mimic and pathognomic point of view (see J. von Schlosser, *Die Kunstliteratur*, pp. 343 ff., 359, 396); and the Netherlander Carel van Mander treated the problem of proportions with extraordinary indifference (see Schlosser, *ibid.*). [Cf. also E. Panofsky, *Idea* (Studien der Bibliothek Warburg, V), Leipzig and Berlin, 1924, p. 41 ff.; in the Italian translation, Florence, 1952, p. 57 ff.] All the more surprising is the fact that Rembrandt, who certainly had no special interest in the theory of proportions, on one occasion drew a Vitruvius man-in-a-square; but he "disguised" him so successfully that he has not been recognized as such: as an Oriental, sketched from the model and dressed in turban and long cloak, whose posture is casual rather than rigid, the head turned slightly to the side. Were it not for the square and the crosslines dividing the torso, the drawing (C. Hofstede de Groot, *Die Handzeichnungen Rembrandts*,

In "modern" times, then, the theory of human proportions, abandoned by the artists and the theorists of art, was left to the scientists—except for circles fundamentally opposed to the progressive development which tended toward subjectivity. It is no accident that the mature Goethe, having abandoned the Romanticism of his youth in favor of an essentially classicistic conception of art, devoted a warm and active interest to what had been the favorite discipline of Leonardo and Dürer: "To work away at a canon of masculine and feminine proportions," he writes to J. H. Meyer, "to seek the variations out of which character arises, to examine more closely the anatomical structure, and to seek the beautiful forms that mean exterior perfection—to such difficult researches I wish you to contribute your share just as I, for my part, have made some preliminary investigations."[109]

Haarlem, 1906, No. 631) would be accepted as a costume study from life, and the outspread arms would be interpreted as an expressive gesture.

[109] Goethe, Letter to Meyer of March 13, 1791 (Weimar edition, IV, 9, p. 248).

Durch das aristotelische Fernrohr geblickt.

Über Denkobjekte und anthropologischen Scharfsinn einer zeitgenössischen Wunderkammer

ROSWITHA SCHULLER

Schließlich war er in allen Dingen von so scharfem Verstand und erfand Gerätschaften, mit denen man bequemlich Flüsse überqueren konnte, wo keine Brücken waren oder wo keine Boote zur Verfügung standen, oder er erfand Chiffren, die man nicht ohne ein von ihm verfertigtes Instrument verstand.

Gian Paolo Lomazzo über Giuseppe Arcimboldo, aus „Idea del Tempio della Pittura", Cap. 38, Mailand 1590.

APPARAT. Giuseppe Arcimboldo, der in den siebziger Jahren des 16. Jahrhunderts im Dienst der Habsburger stand, schuf neben seinen zahlreichen Portraits auch viele Entwürfe für höfische Feste, darunter Kostüme, skulpturale Attribute und Prunkschlitten. Heute lassen sich die ursprünglichen Funktionen dieser reich verzierten Artefakte, beispielsweise die des Verkehrsmittels, nur noch erahnen, darunter allegorische Ausformungen beliebter höfischer Themen wie etwa mythologische Figuren, Allegorien der Elemente oder des Jahreskreises. Das Kommunikationsmittel wird selbst zur Aussage, im Sinne Marshal McLuhans – the medium is the message. Entwürfe solcher kurioser Geräte sind im Barockzeitalter Herrschaftsallegorien, sie zeigen die Beherrschbarkeit von Umwelt und Gesellschaft zur Erheiterung der höfischen Klasse. Zeitgenössische Devices in unserem alltäglichen Gebrauch sind ebenso Ausdruck von Wohlstand und Wissen, sie schaffen eigene Bildkonventionen und Kanäle, sie erzeugen Netzwerke wie auch Filterblasen.

DENKOBJEKT. Fast ein Jahrhundert später erscheint Das Aristotelische Fernrohr (Il cannochiale aristotelico, Erstausgabe 1654, erweiterte Neuauflage 1670) des Turiner Rhetorikers Emanuele Tesauro. Der Autor entwirft darin die erste große Theorie der Metapher, indem dieser das menschliche Denken und Denkspiel als Instrument konstruiert. Gedankengänge, Methodiken und Theorien versinnbildlicht Tesauro als Maschinen der Erkenntnis. Und so überführt er die im Wortsinn esoterische Architektur des Denkens (vom griechischen ἐσωτερικός für „innerlich") in exoterische Apparaturen, die sodann dem Leser – oder, im zeitgemäßen Sinn, dem User – an die Hand gegeben werden.

Was ist damit heute anzustellen? Tesauros Werk entsteht in einer krisenhaften Zeit, der Übergangsperiode eines statisch–christlichen Mittelalters hin zu der bewegt–dynamischen, von der protomodernen Naturwissenschaft geprägten, Neuzeit.[1] Ähnlich krisenhaft vollzieht sich heute der Wandel von später Industrie– zu Digitalkultur und findet seinen Ausdruck unter anderem in einem veränderten Objektbegehren. Nostalgie prägt dabei diese heutige Beziehung zum physischen Objekt, eine Objektsehnsucht welche die zeitgemäße künstlerische Produktion aufgreift, bis hin zu einer Retrogradation früher visueller Digitalia. Dies zeigt sich in einer Faszination für die typischen knallpastelligen Farbverläufe alter Windowsoberflächen, seien es Ordnerstrukturen, Symbole, oder das Spiel mit Auflösungen und Ähnlichem. Diese Objektsehnsucht lässt sich in der Übersetzung virtueller Ästhetik in physikalische Objekte aufzeigen, dem Clustering von Objekten, der Referenzialität und Spiegelung des Virtuellen im Physikalischen (und umgekehrt). Hier fügt sich die Klammer zu Tesauro und seinen Zeitgenossen, die auch damals durchaus den Umgang mit einer Geschmackskultur diskutierten. Diese historische Analogie verweist einerseits auf das Herausschälen von Manierismen aus einer antike–konzentrierten, idealtypischen Kunstauffassung der Renaissance und andererseits auf einen möglichen kontemporären Gegenentwurf zu den Formatierungen der neuen Medien und ihrer Displays, ihren glatten Oberflächen, ihren programmatischen Filternormen des Angleichens und Ausgleichens, ihrer inneren Organisationsstruktur. Die manieristische Methode ist die Lust zur Abweichung; das ästhetische Arbeiten erweist sich als eine Konzeptualisierung von Alltagsgegenständen und Gebrauchsmaterialien.
Ernst Robert Curtius erkennt diese Methode in der Verknüpfung von gedanklichem Inhalt und ästhetischer Form und beschreibt sie beispielhaft anhand antiker Figurengedichte:

... das sind Gedichte, deren Schrift– oder Druckbild die Figur des Gegenstandes nachahmt: Flügel, Ei, Beil, Altar, Schalmei.

Ernst Robert Curtius: Europäische Literatur und Lateinisches Mittelalter, Tübingen, Basel: Francke Verlag, 1993 (1948), S. 288.

EFFEKTE. Nicht nur unser gestalterisches Tun übt einen Effekt auf die Dinge aus, auch ihre Gestaltung hat wiederum einen Effekt auf uns. In der Art und Weise wie Tesauro sein Fernrohr benutzt spielt er beim Leser auf das Verständnis eines traditionellen Gebrauchs dieses Objekts an, wie auch auf einen möglichen imaginären Gebrauch. Er verschränkt somit dessen Nutzen als Konvention und gleichsames Herauslösen aus dieser Konvention bis hin zu einer neuen Nutzbarkeit. Dies ist ein Leitmotiv des Manierismus und auch späteren Barock; ein dynamisches Verschränken, wie es im Barock auch in der Architektur Ausdruck finden wird. Natur und Kunst, Kunstnatur, Geometrisierung des Organischen, das alles leistet das künstlerische Artefakt. Mehr noch ist es die ästhetische Metaphorisierung von Denkstrukturen, oft dargestellt in allegorischen Motiven. Das Objekt wandelt sich zu einem als poetisch empfundenen Symbol. Zeitgenössische Allegorien können anstelle von Emblemen historischer Tugendkataloge neue Attribute einführen, als Verbildlichung von Datenströmen, digitalen Netzwerken, oder neuer Sozietäten. Die historisch oft bediente Allegorisierung der Sinne wendet sich für den Sehsinn hin zu den zeitgemäßen Formatierungen unserer Bildapparate und Smart Devices, deren Seitenverhältnis und Ausrichtung eine lange Konventionsgeschichte aufweist. Für den Tastsinn, die Haptik, eröffnen sich vielfältige Allegorieformen in den Mikrogesten und Ritualen, mit denen wir Devices bedienen und die Fingerfertigkeit, mit Hilfe derer wir auf kleinsten Apparaturen zu operieren im Stande sind.

MANIERISMEN. Das anthropologische Phänomen einer Freude am Scharfsinn, der Manierist verwendet dafür den lateinischen Begriff der argutia (oder auch italienisch argutezza), erlaubt das manieristische Spiel an Idealformen und deren Verformung zu. So lautet die Beschreibung im Brockhaus:

Streckung und Entkörperlichung der Figuren, Aufhebung der Standfestigkeit, Steigerung des Gewandlebens, Erstarrung der Bewegungen, zugleich aber auch Komplizierung der Ansichten, Mißachtung der Distanzen, Verunklärung der Raumzusammenhänge, Brechung der Farbtöne brauchen nicht notwendig Ausdrucksmittel des jenseitigen zu sein. Der Manierismus brachte Bereicherungen des Ausdrucks, die ihn zum Vorläufer des Barock gemacht haben, jedoch haftet ihm oft genug auch Künstliches, Willkürliches und Bizarres an.

Im Sinne des Manieristen besitzt der Mensch eine ursprüngliche Freude an der Erkenntnis von Zusammenhängen in der Natur, deren Formationen, Geometrien, Schwärmen, Zeitabläufen und daraus ergibt sich für ihn in der Kunst die Möglichkeit eben solche Zusammenhänge, kraft seiner argutia, selbst herstellen: „Die „argutezza" versteht sich als ein Ausdrucksmittel, ein Instrument, das darauf abzielt, Inhalte nicht auf trivial–utilitaristische Weise zu vermitteln, sondern auf ingeniös–reizvolle."[2] Sodann konstituiert sich diese historische Form eines Konzeptismus, das Ausreizen einer Metapher, das Weitherholen, die Pointensucht, wie es Curtius nennt, in einer weit gefassten Zeitachse als Pate konzeptueller Kunst im zeitgemäßen Sinn.

ZUSAMMENHÄNGE. Manierismus als formgewordener Widerspruch ist eine mögliche künstlerische Strategie für unser heute die das Potential hat, sich einer neuen technoiden Klassik entgegenzusetzen und antiklassisch deren vorgegebene Instrumente, Devices und damit einhergehende Ordnungen von Gesten und Handlungsabläufen auszuhebeln – nicht nur im haptischen Sinn, sondern ebenso in Tesauros imaginären Sinn. Der Antiklassizismus referiert nun nicht unbedingt gegen eine kunstimmanente Tradition, wie in seiner historischen Erscheinungsform, sondern gegen die Scheinästhetisierung unserer Konsumräume zu Als–Ob–Galerieräumen, unserer pseudo–minimalistischen Warenformen und schlussendlich gegen eine Warenform der Kunst selbst. Der anthropologische Scharfsinn führt zu einer Kreativität der Kombinatorik: „Es sei daher geboten, alles andere als einfach zu sein. Ein wahrer Dichter sei derjenige, der fähig sei, <entfernteste Zusammenhänge miteinander zu verbinden>."[3]
Durch das aristotelische Fernrohr geblickt erkennen wir uns innerhalb einer zeitgenössischen Wunderkammer wieder – inmitten der Komplizenschaft all jener Objekte, die sie in idiosynkratischer Ordnung ausgestalten.

Endoten

1 Vgl. Arnold Hauser: Der Ursprung der modernen Kunst und Literatur. Die Entwicklung des Manierismus seit der Krise der Renaissance, München: dtv wissenschaft, 1979, S. 7.

2 Vgl. http://www.argutezza.ch.

3 Emanuele Tesauro paraphrasiert von Gustav René Hocke: Die Welt als Labyrinth. Manier und Manie in der europäischen Kunst, Hamburg: Rowohlt, 1957, S.14.

IMPRESSUM

Dieser Katalog erscheint anlässlich der Ausstellung "Im Schwarm der Objekte" in der Cité internationale des arts Paris im Herbst 2018.

Herausgeber
Kunst im Traklhaus, Waagplatz 1a
A-5020 Salzburg
www.traklhaus.at

Redaktion
Dietgard Grimmer
Judith Pichlmüller
Roswitha Schuller

Grafik
Markus Hanakam

Ausstellungsfotografie
Marko Lipuš

Textbeiträge von
Judith Pichlmüller
Roswitha Schuller

Werkbeschreibungen
Judith Pichlmüller

Übersetzung
Véronique Lacoste pour V.I.T.A.

Abbildung am Einband
David Eisl
Les origines des perspectives, 2018
Ebenholzfurnier auf Eierschale

Druck
Hausdruckerei Land Salzburg

Die Ausstellung wurde ermöglicht durch Unterstützung von Land Salzburg, Österreichisches Kulturforum Paris, BKA – Sektion II Kunst und Kultur, Stadt Klagenfurt, Kanton Zürich und Goethe-Institut Paris.

ISBN 978-3-9504438-6-8

ISBN 978-3-9504438-6-8