

Poster Exhibition

Text of the Apocalypse as Graphics

by Frank Mittelbach and Christina Thiele

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1 Overview

The Alban Grimm exhibit, ‘*Text of the Apocalypse as Graphics*,’ displayed at the recent TUG’99 meeting in Vancouver, shows what happens when a typographer-cum-graphic artist is introduced to computer programs and finds that inputting code can lead to outputting incredible visual results.

At the urging of his son, Gerhard, Professor Alban Grimm first encountered T_EX and METAFONT via AmigaT_EX, so that Gerhard’s thesis in electrical engineering might be typeset. Browsing through the *T_EXbook* and the *METAFONT book*, the professor recognized the vast possibilities that T_EX offered for his own field of work – and he was motivated enough that he even attempted to overcome the language barrier while studying those books. Several months later, he met Frank Mittelbach for the first time (summer of 1990).

One of Prof. Grimm’s aims was to study the nature of computer-generated type. That is, a hand-made type has the look and feel of hand-made type; if one used a chisel, characteristics specific to chisels would be apparent. So—can one extend this idea and identify features of truly computer-generated type (in contrast to type generated with the computer but emulating other methods)? The “VN” set of font variations which resulted were inspired by a search for a font to set the biblical text, *The Apocalypse* by St. John.¹

It was Frank who suggested that an exhibit of this melding of computer code and graphic genius be held at TUG’99. We are therefore deeply indebted to him for provoking Prof. Grimm with METAFONT, and for making the arrangements to bring over from Germany the enormous folder containing these posters (a weight of over 10kg!). Fortunately, Wendy McKay and Ross Moore (also responsible for the TUG’99 web pages) were able to pick up both Frank and the folder from the airport—Frank probably thanks them even more than we do!

The exhibition comprised 7 sets of panels, each set being the full text (in German) of the *Apocalypse*. Some sets had 22 graphic pages, while others only 11, where two chapters were set on one page. In all, 132 panels were displayed, with Frank putting up a different set each morning and afternoon, with assistance from Anita Hoover, program co-chair and technical editor of the proceedings.

In addition, several texts written by Prof. Grimm provide some background to the whole project. The texts had been translated by Prof. Grimm’s son, Gerhard, and edited by Christina Thiele, proceedings editor.

Imagine a large off-white poster-sized panel, with two main areas of ‘stuff’ rendered in varying combinations of black, red, blue, yellow, The upper area shows material that is text (it just doesn’t look like text), while the lower area (in the early series) is clearly an all-caps text. The graphics on top of each page were generated from the first and last sentences of the current chapter, which appears in the lower area (either on one page or two). The difference in presentation is the result of selecting appropriate METAFONT modifications.

The transformations are T_EX and METAFONT in action, but not with results we’ve ever seen before! Some of the series do need to be seen together, as the gradual change in color and presentation of graphics adds to the visual effect, something an individual poster—though beautiful—simply does not hint at, when

¹A revelation made to St. John and recorded by him in the last book of the New Testament, called also the *Book of the Revelation of St. John the Divine*.

seen in isolation.

A glimpse of this unique exploration of T_EX and METAFONT will appear in the TUG'99 proceedings—although black and white reproductions cannot fully do justice to the work.

Prof. Grimm generously allowed all his prints for this exhibit to be given away to the participants at TUG'99. We would like to express our thanks—and our amazement—to Prof. Grimm, for having shown us that paper and ink can go far beyond 'boxes and glue'.

Christina Thiele
TUG'99 Proceedings Editor

2 A Brief Biography

Professor Alban Grimm, Mainz

- Born 1936:** in Offenbach am Main, Germany
- 1959-1965:** studies in Mainz in the fine arts (focus on writing and typography), history of art, theology
- until 1983:** art teacher at high school in Hessen; (1977–79) headmaster of high school division of a multi-level education school; first contact with computer technology – creating schedules
- since 1983:** professor of writing at the Faculty of Fine Arts, Johannes Gutenberg University of Mainz
- since 1990:** experiments with METAFONT
- 1994–1996:** development of the variable capital font VN for purposes of teaching and research

Main interests: “scriptographical”² alternatives to calligraphic routines and print media standards

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²Original German adj. ‘schriftbildnerisch’. Prof. Grimm uses the noun ‘Schriftbildnerie’ as a synonym for ‘Schriftkunst,’ when speaking of his works—it helps avoid the common misinterpretation of the latter term as ‘calligraphy’. The adj. form – ‘scriptographical’ – therefore, would mean ‘related to scriptual art’.

3 Meta Fonts—Artifacts with metafont

Various techniques can be applied to create fonts. For my teaching at the Faculty of Fine Arts, Johannes Gutenberg University Mainz, the goal was to examine the technique-dependent shaping of letter forms. Letters carved in stone appear carved, letters written on paper appear written, and printed letters appear printed. But what appearance is expected from letters that have been created using a computer?

Considering that the use of computer technology aims at imitating everything which can be achieved by other techniques, what is a typical computer result? To answer this question, I had to experiment with the computer, trying to obtain results that other tools can only deliver with a lot of effort, or not at all. Furthermore, much of the basic knowledge has been influenced by traditional techniques and needs to be reflected in the new context.

Practically speaking, the models available from type design and calligraphy can only be adopted with respect to clarity and optimal differentiation of shapes. By removing all technique-dependent details, one can concentrate on the radical basic shapes.

When working with METAFONT, one is bound to notice that the basic forms of our roman type, as they are still present in the capital letters, can be reduced to the elementary geometric shapes of triangle, square, and circle. METAFONT easily allows to create a font composed of linear strokes, whose aesthetic and functional substance stems solely from the balance of proportions and the clarity of shapes. It can serve as a basis for multiple variations controlled through parameters.

The principle of parameter control allows for variation of fonts in contrast to using imitated, traditionally static fonts for typesetting. With less effort than ever, the typographer can create a suitable font version and derive modifications to the unimagined.

To allow maximum liberty for the derivations offered by METAFONT, it is advisable to avoid derivatives of other origin, such as the development of lowercase letters. An alphabet of uppercase letters with equal height and without elements below the baseline is recommended as the basic font; it is extremely resistant to many kinds of modifications. None of the possible variations will be as balanced as the basic version. All changes inherit their quality from the unambiguity and clarity of the basic shapes of the roman uppercase type. Graphical enhancements and transcriptions of the shapes compromise the original quality to allow for other transformations.

Since application examples almost never show the basic version of this variable capital font, it is necessary to display it in relation to its modifications (the details of parameterization can be omitted in this short description). Much about it is obvious from the results. The variabilities range from readable characters to unreadable, merely ciphered formations. Thus, writing as “visible language” can carry more than just language content. Text as a graphical area—whether readable or not—can in this manner be experienced as a very vigorous matter. The traditional, classical printer fonts lack this vitality due to the perfection of their details. Even if the several versions of this font called “VN” occasionally appear to be hand-written, they are stereotypes. This is of importance, since it is not a simulation of the written hand. The broad nib rotation and width variation could not be achieved manually.

The repeated use of the Apocalypse as text is because this font was developed while I was searching for a suitable typeface for this text. The Apocalypse versions presented are not final results, but mere

finger exercises to practise the use of this font seriously. The graphic sheets are not to be interpreted as illustrations. They simply let the text be graphics—exceeding its linguistic function. The meta aspect of Knuth's METAFONT is being extended.

Otherwise, this variable uppercase font consequently picks up what was outlined in *The METAFONT Book* (chapter 21). My VN font is just one example of developing alternatives to traditional type design that are typically digital.

ALBAN GRIMM

4 The Text of the Apocalypse as Graphics

When undertaking graphical experiments on the text of John's Apocalypse over and over, I am always fascinated with the interaction of shape and content which this text stimulates. To my eyes, reading about such horrible events via a font of neutral style, one which would be appropriate for any purpose at all, is disturbing. The conflict between shape and content irritates me. By attempting to compensate for the lack of specific suitability solely by employing appropriate arrangements, I learned that the existing variations of our roman typefaces are dedicated to an aesthetic that is purely self-related.

My basic interest in creating an interaction of text and contents of John's Apocalypse in manifold ways has nothing to do with a fashionable end-of-times mood. The more I give in to previously unknown possibilities of varying our typefaces, the more I find confirmation of the fact that script as shape extends beyond itself. This is very suitable for the text of John's Apocalypse.

If images - even excellent ones - remain hidden behind the telling of the Apocalypse, one has to try to render the text itself as an image. This relieves the artist from the possibility, as well as the constraint, to provide illustrations. Associations which resemble illustrations are illusionary. This is not about illustrations. The text itself moves into the pictorial domain - those transcriptions can, however, never be interpreted as illustrations. The script merely visualizes itself, being exposed to conditions that are no longer dedicated to legibility.

Due to the nature of roman capitals, they lend themselves easily to such transformations. A special appeal results from the enhancements with digital graphical elements, and astonishing results beyond legibility can be achieved. Structures consisting of very different computer-specific strokes resemble hand-drawings but, although they are static, they exhibit a vivid appearance of a completely different sort.

Most of the attempts are concerned with the contrast of script as text versus script as a language-free play of shapes. Beyond the domain of language, everything can be different. The process of reading is no longer tied to running along the lines with their sequence of words. Relieved of the constraints of reading, the eye can move here and there, can follow the scattering and clustering of lines back and forth, up and down. The irreversibility of the uni-directional nature of reading, a function of correct linguistic interpretation, is obsolete. Furthermore, reception is uncoupled from the semantics of language. The transcriptions can be concentrations, where reading reverts to the latin "legere"

The liberated characters form something new, still requiring the text as a base, and thus challenge the recipient's thoughts to respond to this unusual play of lines, according to his readiness and ability. Even rejection can be explained: those who regard writing only as a cultural technique, something learned in school, cannot be expected to be very open-minded towards these transcriptions. Such transcriptions are monstrous in terms of linguistic functionality, because they make use of text in non-standard ways. Being unreadable and thus exclusively graphical, the text is only related to itself and is itself the subject of the various visualizations.

Thus, as an observing and thinking being the reader is referred back to himself, his willingness to reflect encouraged.

ALBAN GRIMM, 1999

5 Text der Apokalypse als Grafik

Wenn ich wieder und wieder grafische Versuche mit dem Text der Offenbarung des Johannes vornehme, so liegt es daran, daß dieser Text immer wieder dazu verleitet, ein neues Wechselspiel von Form und Inhalt zu wagen. In meinen Augen ist es ein Mangel, wenn die schrecklichen Ereignisse in einer Schrift zu lesen sind, die in ihrer neutralen Schönheit sich auch für alles andere eignet. Die Divergenz zwischen Form und Inhalt stört mich dabei. Versuche, den Mangel an spezifischer Eignung allein durch angemessene Ordnungsweisen kompensieren zu wollen, haben mich einsehen lassen, dass die bestehenden Ausprägungen unserer lateinischen Schrift als Satzschrift einer Ästhetik verpflichtet sind, die nur auf sich selbst bezogen ist.

Mein grundsätzliches Interesse, auf unterschiedliche Weise ein Wechselverhältnis von Text und Inhalt der Apokalypse des Johannes herzustellen, hat nichts mit modischer Endzeitstimmung zu tun. Je mehr ich mich auf bislang unbekannte Möglichkeiten der Variation unserer Schrift einlasse, um so mehr sehe ich die Tatsache bestätigt, dass Schrift als Form auch über sich hinaus weist. Dem Text der Offenbarung des Johannes kommt das sehr entgegen.

Wenn Bilder, wie meisterhaft auch immer sie sein mögen, hinter den Schilderungen der Apokalypse zurückbleiben, dann ist zu versuchen, wie es ist, wenn der Text selbst Bild wird. Damit wird der Möglichkeit wie auch dem Zwang ausgewichen, Illustrationen zu liefern. Assoziationen, die Erinnerungen an Abbildungen aufkommen lassen, sind Täuschungen. Es geht nicht um Abbildungen. Der Text selbst wechselt zwar - transkribiert - ins Bildhafte, führt jedoch niemals zu Abbildungen. Die Schrift visualisiert dabei nur sich selbst und gerät unter Bedingungen, die der Lesbarkeit nicht mehr verpflichtet sind.

Es liegt in der Eigenart der lateinischen Grossbuchstaben, dass sie sich für solche Umwandlungen geradezu anbieten. Nicht nur in den Anreicherungen mit rechnerischen grafischen Elementen entsteht ein besonderer Reiz, auch jenseits der Lesbarkeit kommt es zu verblüffenden Ergebnissen. Strukturen aus sehr unterschiedlichen computerspezifischen Linienführungen erinnern zwar an Zeichnungen per Hand, sind aber starr und leben auf völlig andere Art und Weise.

Bei den meisten Versuchen geht es um ein Gegenüber von Schrift als Text und Schrift als sprachfreies Formenspiel. Jenseits der Sprache kann alles anders sein. Der Vorgang des Lesens ist nicht mehr an den Lauf der Zeilen und deren Folge der Worte gebunden. Vom Lesezwang befreit, kann das Auge dahin und dorthin schweifen, kann vor und zurück, auf und ab den Streuungen und Ballungen der Linien nachgehen, kann sie betrachten und kann zu Betrachtungen anregen. Die Irreversibilität des eindimensionalen Lesegangs, wie ihn die Funktion der Sprache fordert, ist aufgehoben. Auch die Bindungen der Rezeption an die Begrifflichkeit der Sprache entfallen. Die Transkriptionen können Fokussierungen sein, wo "lesen" auf das lateinische "legere" (sammeln) zurückgreift.

Indem die freigesetzten Schriftzeichen zu etwas Neuem werden und dabei dennoch den Text als Grundlage brauchen, werden die Gedanken des Rezipienten gemäß dessen Bereitschaft und Fähigkeit herausgefordert, auf die ungewöhnlichen Linienspiele zu reagieren. Selbst eine Ablehnung ist nachvollziehbar. Wer nämlich Schrift lediglich als das billigt, was er von ihr in der Grundschule als Kulturtechnik erlernt hat, der kann mit den Transkriptionen wenig anfangen. Diese sind nicht nur im Sinne linguistischer Funktionalität ungeheuerlich, sondern auch deshalb, weil sie nichts weiter sind als der Text auf eine andere Weise. Der Text geht - unlesbar und damit ausschliesslich grafisch - auf sich selbst ein und ist in den verschiedenen Transkriptionen somit selbst Gegenstand der jeweiligen Visualisierung.

Der Leser als Betrachtender und Meditierender wird auf sich selbst verwiesen. Seine Bereitschaft, zu reflektieren, ist gefordert.

ALBAN GRIMM, 1999

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