

The Future of Text: More Questions than Answers

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The text processors we use today are, in their functionality if not in their appearance, shockingly similar to those actually developed in the late 1960s and 1970s. At that time, there were serious hardware constraints that had to be addressed in order to develop even the most basic text processing applications. Today, we have access to so much storage memory and processing power that we hardly know what to do with them. Yet, many of the same constraints are still evident: cut or deleted passages and words disappear rather than being automatically stored and presented as deletions; projects are separated into files that do not communicate with one another; the desktop space is, for most users, so limited that it is difficult to open and view several files at one time. What is still missing from even the most sophisticated text processors is the ability to synthesize multiple sources and new textual combinations in ways that actually facilitate and assist a human writing process. The making of connections is ultimately what propels a writing process forward.*

There were and still are compelling visions of how text processors could function. One of the most intriguing can be found in Ted Nelson's 1965 article "A File Structure for the Complex, the Changing, and the Indeterminate," in which he envisions how a text processor could be used to enhance a human's alphabetic writing process by facilitating multimodal communication across multiple document types. In this vision, machine languages (coding) function in the service of human alphabetic language processing (writing). However, in the text processor that he and others actually developed in the 1970s, alphabetic language processing is not only separated from machine language functions but must conform to their structures and limitations. Although named "Juggler of Text" (JOT) in reference to his original vision, JOT functioned much more like other text processors, which, if they are text jugglers, actually juggle only one type of ball, not several, and even then in ways that often distract from, rather than enhance the writing process.

In a human writing process text manipulation is functional, not functionless, as it has been traditionally modeled in text processors. In other words, the moving of textual components around in space and time and their combination and associations with other texts create meaning. Humans process alphabetic language associatively and in a productively ambiguous manner that generates new insights and ideas and connections. It is sometimes said that it is in the "wording process" that one is thinking; but, the "wording process" has to do with more than words. Representing alphabetic verbal language for humans is a multi-sensorial process that involves seeing, hearing, touching, and smelling. It is also a recursive process guided by the search for a representation that addresses, at the very least, several thousand criteria.

"Writing," defined as a human cognitive activity involving multiple drafts and a revised finished product that has only the barest resemblance to the notes and drafts from which they are derived is a searching for a very particular representation that is realized only in the process of its materialization and articulation. As such, it is a distinctly human act. My hope is that the next generation of text processors has more to do with facilitating the human process of writing and less to do with the production, management, and circulation of text as a material object.

*As one example, compare Illustration 1, which contains screen shots of notes used in the preparation of this text with the printed text you are reading, itself only one version of the possible texts contained in these notes. The notes were created using a 2014 web based emulation of a 1986 version of Ted Nelson's "Juggler of Text" (JOT) application (https://archive.org/details/jot_0.53_ted_nelson).

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----- OK
* * ?
I WRITE TO YOU TODAY FROM A 2014 EMULATI
ON OF A 1986 REBUILD OF A WORD PROCESSOR
I ?
DESIGNED BY TED NELSON. THIS IS TRUE
COLLABORATION, NO? I AM MOVING BACKWARD
DESIGNED ?
AND FORWARD IN TIME, COLLABORATING WITH
PEOPLE I HAVE NEVER MET. HOWEVER, I CAN
AND ?
ONLY TAKE A PICTURE OF THIS TEXT, ITSEL
F A TYPE OF WRITING.

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WM*I ?
WORD PROCESSOR DESIGNED BY TED NELSON IN
THE EARLY 1970s THAT HE NAMED "JUGGLER
EMPTY STACK
OF TEXT" (JOT). THIS IS TRUE COLLABORAT
ION, NO? I AM MOVING BACKWARD AND FORWARD
OF ?
D IN TIME, COLLABORATING WITH PEOPLE I'U
NEVER MET: TED NELSON, STEVE WITHAM, J
SON SCOTT, THE STAFF OF THE INTERNET AR
CHIVE, MY ELECTRICITY COMPANY, COAL MINE
RS, WIND FARMERS, MACHINES OF ALL SHAPAS
ION ?
AND SIZES. COGNITIVE MODELS OF THE W
RITING PROCESS LOOK EXACTLY LIKE SCHEMAT
S ?
IC MODELS OF A BASIC COMPUTER. WHAT DIF
FERS IS THE ABILITY FOR SYNTHESIS AND TH
E ?
MAKING OF CONNECTIONS IS ULTIMATELY WH
AT PROPELS THE WRITING PROCESS FORNE ?
ARD*

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E
FORWARD IN TIME? THE FIRST TEXT PROCESS
ORS ?
WERE DEVELOPED TO OPERATE IN TWO MOD
ES: "COMMAND" AND "TEXT," MEANING THEY W
ERE ?
DIRECTED TO TWO AUDIENCES: MACHINES
HUMANS. ATTEMPTS SINCE THE 1960S TO
MERGE ?
THESE TWO MODES CONTINUE TO DEFIN
E THE DREAM IF NOT THE REALITY OF WORD P
ROCESSING APPLICATIONS. WE ALL LIKE TO
IMAGINE WHAT WOULD HAPPEN IF EVERY TEXT
ROCESSING ?
IN THE WORLD WERE ABLE TO COMMUNICATE WI
TH EVERY OTHER TEXT IN THE WORLD AND, IN
IN ?
THE PROCESS, EXCHANGE AND SYNTHESIZE TH
E "SUM" OF THEIR CONTENTS. BUT WHAT WE
THE ?
ARE THEN ASKING IS THAT MACHINES OPERATE
AS HUMANS, WHICH THEY NEVER HAVE. WHY HA
VE WE EN ?
NOT YET COME UP WITH AN IDEA MACHINE?

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PROCESSOR ?
TEXT" (JOT). IT FUN
CTIONS ONLY INTERMITTENTLY, BUT I LIKE T
HE INTERFACE, BOTH HOW IT LOOKS ANIT ?
D ITS UNPREDICTABILITY. I FEEL LIKE THE
MACHINE IS TALKING TO ME, WHICH IT ISN'
D ?
IT IS JUST FOLLOWING COMMANDS THAT
MAY OR MAY NOT BE WORKING AND THAT I DO
T ?
[DELETED] HAVE NOT MASTERED. I'M HOPING
THE FUTURE OF TEXT PROCESSING INCLUDES A
[DELETED] ?
ENOUGH MEMORY FOR APPLICATIONS TO DISPL
AY EVERYTHING THAT HAS BEEN TAKEN OUT.
ENOUGH ?
IT WOULD BE NICE, OF COURSE, TO HAVE SOM
E COMMENT BY THE MACHINE ON HOW AND WHY
IT ?
WHAT WAS TAKEN OUT WAS TAKEN OUT. THAT
WOULD HELP GREATLY IN AUGMENTING THE HUM
WHAT ?
AN WRITING PROCESS.*

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THE QUESTION MARK PLAYED A PROMINENT
ROLE IN EARLY WORD PROCESSORS SUCH AS E
D, WHICH WAS BUILT BY DENNIS RITCHIE AS
PART OF UNIX AND IN TED NELSON'S OWN EAR
LY WORD PROCESSOR, WHICH HE NAMED "JUGGL
ER OF TEXT" (JOT) IN HONOR OF HIS UNDERS
TANDING OF THE WRITING PROCESS AS ONE TH
AT IS FUNDAMENTALLY ABOUT "REARRANGEMENT
AND REPROCESSING." TO DATE TEXT EDITORS
HAVE HELPED TREMENDOUSLY WITH REARRANGE
AND ?
MENT AND NOT AT ALL WITH REPROCESSING.
THERE ARE VARIOUS INTERPRETATIONS AS TO
MENT ?
WHY THIS IS THE CASE, ONE OF THE MORE IM
PORTANT ONES BEING THE CONSTRAINTS OF TH
WHY ?
MACHINE AS A LINEAR, INSTRUCTION BASED
SYSTEM. IF WRITING WERE *

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Illustration 1: Author's Notes, Created With a 2014 Web-Based Emulation of a 1986 Rebuild of Ted Nelson's "Juggler of Text" (JOT) Text Processing Application