The second preface of Hofstadter's book tackles the way in which we juggle what he calls mental objects. These objects, Hofstadter states, are something that come to exist gradually in the virtual space of working memory. He describes mental objects as analogous to a ball in a video game, an object, " ...that has its own persisting identity and its own types of behavior"(Hofstadter, 90), existing on the hardware that is presenting the image of the ball, but is fundamentally different from just the collection of pixels that create that existence. Humans do always construct and manipulate these objects consciously, take for example, when you see a misspelled or jumbled word, you unconsciously shuffle through possible combinations in order to try and create a sensible word. Herein lies the importance of juggling mental objects, because it is used to help us make sense of the world around us.

In detailing the process of solving a word jumble, Hofstadter introduces a variety of terms to the reader, such as "glom" and "glomming". A "glom" is a collection of letters that have been randomly thrown together to form a pattern that is usually very word-like, and always pronounceable. In order to create a glom, you take the collection of letters, metaphorically throw them up in the air at the same time, and when they come back down, they are usually in a glom. The process is essentially letting your unconscious mind rearrange the letters into a recognizable pattern that you can translate to speech this, Hofstadter says, is the process of "glomming".

This may seem like a fairly frivolous and uncommon activity, but Hofstadter makes a strong argument for examining and modeling glomming. He proposes the idea that, at an expert level, when the process is fairly quick and automated, that it shares aspects with truly creative thought processes. The two processes may share similarities in the deep processes of reorganization and reinterpretation, where they're run alongside each other in parallel in order to

create a more coherent image. When this act is completed at the expert level, Hofstadter believes that there is an important and special quality about it.

That special quality is what Hofstadter tried to capture when creating Jumbo, instead of following the common approach of brute force. Programs that used brute force to solve similar problems to the one that Jumbo was created to solve, were far from what cognitive scientists were interested in creating. There was no model of a cognitive process, or of anything that was typical of a human thought process. These programs relied heavily on search algorithms that were incredibly math intensive, searching through large dictionaries for legal solutions. This, Hofstadter felt, was the antithesis of a cognitive model.

Unlike these projects, the Hearsay II project was able to capture Hofstadter's attention, and influence how he conducted his research. The project introduced to him the idea of parallel architecture where different forms of processing, top-down and bottom-up, could coexist and influence each other. Its main idea was that there is a central data structure called the blackboard, which created situations that resulted in the creation of knowledge sources. The knowledge sources needed preconditions in order to inform them, but these preconditions sometimes needed preconditions, and some of these pre-preconditions needed preconditions. This need for pre-preconditions and pre-pre-preconditions, to Hofstadter's dismay, was left only as a footnote, despite becoming the basis for his idea of parallel computation.

The "fateful footnote" inspired him to use different degrees of computational specificity and effectiveness applied in a parallel fashion, resulting in the parallel terraced scan. The parallel terraced scan is a processing method in which two sets of entities analyze each other in successive trials, analyzing fewer pieces of data for longer each time, in order to find the entities

that best suit their needs. Hofstadter uses the greek life rush system as an example of this dynamic. The sororities, which could be viewed as an entity taking a top-down approach, gradually narrow down the number of girls that they invite back while spending more time with each girl. The rushees, who can be viewed as an entity taking a bottom-up approach, choose fewer sororities to go to, visiting longer as the rush process goes on.

A similar view can be applied to the college application process, with institutions in place of sororities, and applicants in place of rushees. Schools begin their recruitment process by sending out advertisements to whoever will listen, and students listen to information about schools in an attempt to find where they want to study. Then, based on who has shown more interest, and who students have talked to, schools reach out to contact students who they hope to have attend. Students behave in a similar way, reaching out to and learning more about schools that interest them by showing the right attributes.

Once a student has shown enough interest, they may be notified of or invited to an open house. Here, the school spends a day or weekend trying to get the student to apply to the school, but can only invite students that have shown enough interest, in order to properly accommodate them all. The student must decide what schools are worth going to, only visiting their "top" schools, where they feel they will learn best. After they have seen the school, there is the acceptance and commitment process. A school will evaluate a student's academic performance and recommendations in a final decision of if they are suitable for the school, and offer financial aid or scholarships in an extra effort if they choose that student. The students will then make their final decisions as well, carefully choosing the school that is the best fit for them based on the information they have gathered to this point in their search.

Hofstadter suggests that people use this type of processing in the fundamental task of word perception, following the same process as Jumbo. With this, he states that we are completely unaware of the multi-level chunking that occurs during our day-to-day word processing. For example, when you see the word “weeknights”, you could read it wee-knights or week-nights, but we tend to read it week-nights. That answer generates the question of how do we chunk letters? If we broke the word down even further, into the word “night”, we see that there is a single consonantal unit that can be broken into two clear parts “ght” and “s”. Some other examples that can be interpreted differently are commitment and notion. Commitment can be interpreted as com-mit-ment, comm-it-ment, or co-mm-it-men-t, although, typically we process it as com-mit-ment. Notion can be read as no-tion, not-ion, no-tio-n, or no-ti-on, although typically we read it no-tion. It is difficult to discover how these patterns emerge, and how native speakers are able to read all of these possibilities, as there are multiple levels of indeterminacy and glomming that go into the interpretation of the words we read.