



# Proceeding Paper Platonic Computer—The Universal Machine from Which Abstract Entities Are Generated <sup>+</sup>

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Abstract: The concept of Platonism is extended by introducing the new concept of a "Platonic computer" which is incorporated in metacomputics. The theoretical framework of metacomputics postulates that such a Platonic computer exists within the realm of 'forms' and is made by, of, with, and from metaconsciousness. Metaconsciousness is defined as the "power to conceive, to perceive, and to be self-aware" and is the formless, contentless infinite potentiality. The infinite potentiality of metaconsciousness is expressed as specific actualities via Platonic computation. This means that an abstract entity is the conscious state of being a specific actuality and is the processing output of the Platonic computer. As such, the physical computer made of silicon is but a shadow or poor imitation of the Platonic computer. Nevertheless, by programing the physical computer it is possible to simulate the generation of abstract entities as the processing output of the Platonic computer.

**Keywords:** Platonism; Platonic computer; pancomputationalism; metacomputics; metaconsciousness; abstract entities

## 1. Introduction

Platonism holds that abstract entities exist objectively in the realm of 'forms' as fundamental components of reality. These abstract entities such as numbers, geometric shapes, objects and other 'universals' are real and perfect nonphysical forms, whereas material objects are only a 'shadow', or poor imitation, of these abstract entities. Being shadows means that the material objects observed in the physical reality only resemble their perfect abstract forms and may do so to differing degrees.

It is not possible to study the realm of forms empirically as this realm is not accessible by our normal senses or by using current physical instruments. Consequently, the origin of the abstract entities in the realm of forms has remained largely a mystery. However, this paper explores the idea that the realm of forms could be studied by using a computer simulation. It is postulated that abstract entities could be generated as the processing output of digital computation in the realm of forms. It is proposed that the generation of abstract entities can be simulated using a physical computer, based on the theoretical framework of metacomputics [1].

### 2. The Theoretical Framework of Metacomputics

Metacomputics is a theoretical framework built on the foundation of Platonism. Within this framework it is postulated that the everyday material computer made of silicon is only a poor imitation of the perfect abstract metacomputer in the realm of forms. This abstract metacomputer is called the "Platonic computer" [1].

The theoretical framework of metacomputics can be summarized by the following key points:

- Presumed existence of an operating metacomputer (i.e., Platonic computer) in the realm of forms.
  - This Platonic computer is made by, of, with, and from metaconsciousness.



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- Metaconsciousness is defined as the "power to conceive, to perceive, and to be selfaware" and is the formless, contentless infinite potentiality.
- Actuality (i.e., forms) arises from metaconsciousness via metacomputation of the Platonic computer.

The construction of a Platonic computer consists of three steps, as outlined below and illustrated in Figure 1:

- 1. Metaconsciousness manifests itself into existence.
- 2. Binary metaphysical switches are made with two opposing states (unmanifested metaconsciousness and manifested metaconsciousness).
- 3. The metacomputation system is constructed using the binary metaphysical switches to form three faculties: metaprocessor, metadata, and metaprogram.



Figure 1. Construction of Platonic computer in the realm of forms.

The processing output of a metacomputation system give rise to a diverse range of actualities, including abstract entities.

#### 3. Comparison between Platonic Computer and Physical Computer

Both the Platonic computer and the physical computer operate on binary opposing states. However, there are fundamental differences between the make-up of the binary states in the Platonic computer compared to the physical computer. For example, within the Platonic computer the metaprocessor is made of metaconsiousness, and the output is generated by manipulating the two binary opposing states (i.e., unmanifested metaconsciousness and manifested metaconsciousness [1]), as illustrated in Figure 2.

Besides the metaprocessor, the other two faculties in the metacomputation system (i.e., metadata and metaprogram) are also composed of unmanifested metaconsciousness (voids 0 s) and manifested metaconsciousness (pixels 1 s), as shown in Figure 3.



**Figure 2.** Switching of binary opposing states—pixel (shaded square) and void (blank square) by alternating image A and B. [1]. Pixels denote manifested metaconsciousness, voids denote unmanifested metaconsciousness.

The processing outputs of the Platonic computer are specific configurations of the binary states (i.e., unmanifested metaconsciousness and manifested metaconsciousness). Furthermore, a specific configuration of these binary states defines the conscious state of being a specific actuality.



 Metadata – Specific configurations of pixels (1s) and voids (0s)

# Metaprogram – Sequences of codes in binary opposites (1s & 0s)



**Figure 3.** Three faculties of the Platonic computer (metacomputation system) are all composed of binary opposing metaphysical states.

In comparison, a physical computer processor is made of binary ON/OFF switches made of silicon, and its output is generated by manipulating these physical switches. Hence, the processing outputs of the physical computer are specific configurations of binary states (i.e., ON (1) and OFF (0)). A specific configuration of these 0 s and 1 s defines a symbol which can be displayed on the computer screen. For example, according to the American Standard Code for Information Interchange (ASCII), the binary digits 1010 defines the symbol '10', whereas the binary digits 01000001 defines the letter 'A', all of which can be displayed on the computer screen.

Being the shadow of Platonic computation, physical computation can only simulate certain aspects of it. For instance, a physical computer can simulate the dynamic changes of the weather so that a weather forecast can be made with a reasonable level of accuracy, but it doesn't get wet and windy inside the computer screen that displays the simulation. That is, simulation of the weather in a physical computer will not produce the conscious experience of wet and windy.

Despite the limitations of physical computation, the physical computer still represents a useful tool to simulate some aspects of Platonic computation. The following two examples show how the creation of abstract entities can be simulated using a physical computer.

### 4. Generation of Abstract Entities

#### 4.1. Natural Numbers

According to Platonism, numbers exist beyond space and time in the realm of forms. That is, they are neither the cause nor the result of anything physical. Mathematicians typically describe numbers by their effects or properties (e.g., set theory). They take natural numbers as given and accept their origin and ontology as a mystery. For instance, the German mathematician and logician Leopold Kronecker (1823–1891) is reported to have said, "God created the natural numbers; all the rest is the work of man" [2].

The creation of natural numbers can be simulated on a physical computer by running a +1 program, as shown in Figure 4. Running this program on a physical computer produces the output: 1, 2, 3, 4, 5, 6 ... and so on as symbols of digits on the physical computer screen. Based on the assumption that the physical computer is but an imitation of the Platonic computer, it is postulated that, in parallel to the physical computer running the + 1 program, the Platonic computer gives rise to oneness, twoness, threeness, fourness, fiveness, sixness ... and so on in the realm of forms as the conscious states of being.



**Figure 4.** Output of a physical computer (**left**) and output of Platonic computer (**right**) from running a +1 program.

#### 4.2. Colours

According to Platonism, colors are universals existing beyond time and space in the realm of forms. For example, an apple and ruby may both be red and the redness they share is a universal and exists independently of any red 'physical thing'. Furthermore, a physical computer can be programmed to produce phenomenological colors as a simulation of how the Platonic computer would produce abstract colors as universals. As shown in Figure 5, the physical computer (on the left) produces the phenomenological colors red, green, blue. It is postulated that, in parallel to the physical computer, the Platonic computer (on the right) outputs redness, greenness, and blueness as conscious states of being.



**Figure 5.** Phenomenological colors as output of a physical computer (**left**) and abstract colors as output of Platonic computer (**right**).

### 5. Summary and Conclusions

The concept of Platonism is extended by introducing the new concept of a "Platonic computer" which is incorporated in metacomputics. The theoretical framework of metacomputics postulates that such a Platonic computer exists within the realm of forms and is made by, of, with, and from metaconsciousness. Metaconsciousness is defined as the "power to conceive, to perceive, and to be self-aware" and is the formless, contentless infinite potentiality. The infinite potentiality of metaconsciousness is expressed as specific actualities via Platonic computation. This means that an abstract entity is the conscious state of being a specific actuality and is the processing output of the Platonic computer. As such, the physical computer made of silicon is but a shadow or poor imitation of the Platonic computer the generation of abstract entities as the processing output of the Platonic computer.

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