



# STEP 1

*“The Systematic: An Architectural Interpretation of the holistic and intrusive relationship in medical application & human anatomical theory.”*

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## 1.0 Introduction

Before we initiate discussion into the theory, it is important to understand a factor which is best explained by Richard Sennet in his text *"Flesh and Stone"*, "one need for a master image of the body is conveyed by the phrase 'the body politic'"<sup>1</sup>, thus, we are attempting to create a 'body politic' which assists in the interpretation of 'body' into architecture. The intent of this paper is to successfully translate the ideology behind the creation of a theoretical 'body politic', by reviewing the transformation of theory throughout design studio 9. Initially we will discuss the origins of graphical representation in human anatomy and the implications with the attempted graphical translation to architectural form. Furthermore we will discuss the development of a Holistic and intrusive theory in attempt to resolve an appropriate connection between Human Anatomical progression, medical application and architecture.

## 2.0 Architecture and Human Anatomy: The visual connection

We begin by looking into human anatomical research with intent of using visual representations of the human body to experiment with its translation into architectural form. Depicting the human body in design, using visual means to do so, has been evident throughout history. According to *"Body & Building"* by George Dodds and Robert Tavernor, Francesco di Giorgio Martini's text *"Quattroscent Treatiso"* was the first to provide a comprehensive coverage of both the practical & theoretical issues that pre-occupied military architects in the renaissance.<sup>2</sup> They explain that in Martini's text he mentions Alexander the great's proposed plan, put forward by his architects, to found a new city in Mount Athos in the literal shape of a human body.<sup>3</sup> Although it is clear that an attempt was made at portraying the significance of the body in design, it is important to note that a translation into architectural form was attempted through a purely visual understanding of the body as a surface image.

Prior to attempting to source appropriate graphical content in order to represent the human anatomical form, we must have a brief understanding of where the anatomical structure of the human body became perceivable in a graphical manner. Andreas Vesalius is a driving force behind the connection between human anatomy and its translation into the visual realm. In 1543 Vesalius published *'De Humani Corporis Fabrica'*<sup>4</sup>. It was said that *"This book was based largely on human dissection and transformed anatomy into a subject that relied on observations taken directly from human dissections."*<sup>5</sup> It is important to understand the implications to design in allowing a purely visual translation of human anatomical theory. Enabling a visual perception of the human system will, in return allow for a purely visual connection in design when attempting to translate human anatomy into its architectural form.

The importance of visual perception and architectural intent is a crucial relationship to analyse. Lebbeus Woods's text *"art to architecture"* states; in a simplified translation of his theory, that architecture is the directly derived from form and function.<sup>6</sup> Furthermore, to enforce his argument between art and architecture, Woods provides examples of where architects use works of art and there graphical intent in order to design. When we discuss a connection between architecture and a purely visual influence, we treat the ideology of form without proper context of function. Interpreting this theory in an attempt to understand the implications of using purely visual means in translating human structure to architecture, we demine the structural

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<sup>1</sup> Sennet, R., (1996), *"Flesh and stone: The body and the city in western civilization"*, W.W. Norton & Company, USA

<sup>2</sup> Dodds, G., Tavernor, R., Rykwert, O., (2002), *"Body and building: Essays on the changing relation of Body and Architecture"*, Massachusetts Institute of technology, United States of America

<sup>3</sup> Dodds, G., Tavernor, R., Rykwert, O., (2002), *"Body and building: Essays on the changing relation of Body and Architecture"*, Massachusetts Institute of technology, United States of America

<sup>4</sup> O'Malley, C., Saunders, J.B. de C. M., (1973), *"The illustrations from the works of Andreas Vesalius of Brussels"*, Dover Publications Inc., New York

<sup>5</sup> BBC, (2012), *History: Andreas Vesalius (1514 – 1564)*, British Broadcasting Centre, United Kingdom, resourced on 27<sup>th</sup>/4<sup>th</sup>/2012, resourced from [http://www.bbc.co.uk/history/historic\\_figures/vesalius\\_andreas.shtml](http://www.bbc.co.uk/history/historic_figures/vesalius_andreas.shtml)

perfection and functional expertise of the human body, and translate it as purely an image. Thus with the release of *“De Humani Corporis Fabrica”*, the designer now has the ability to refer to the human body and its complexity of function and meaning behind its form, purely as the translation of the visual representation into architecture.

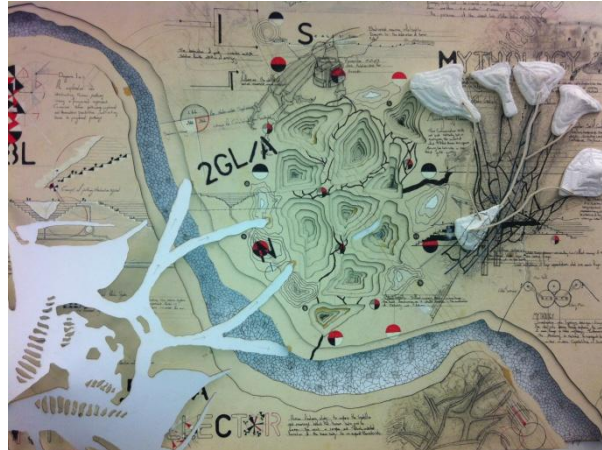


Figure 1: Interim submission 2, Design Studio 9, Bilal Abou-Mosleh, University of South Australia, Masters of Architecture

As quoted by Sennet in the text *‘Flesh and Stone’* “Western civilization has had persistent trouble in honouring the dignity of the human body; I have sought to understand how these body troubles have been expressed in architecture...”<sup>7</sup> With the attempt to translate images of Human Anatomical exploration from Vesalius’s texts into architectural form, the work fell within Sennet’s criticism of western Civilization, a purely graphical interpretation of the Human Body with no true meaning behind the selection of specific elements of focus. Furthermore, the graphical representation of form does no more than use Vesalius’s intrusive exploration into the human body rather than understand his actions. In order for Vesalius to understand the human body, an intrusive approach was used. Here the intrusive action in medicinal theory was not only explored, but well documented by Vesalius, and with his release of *“De Humani Corporis Fabrica”* meant that intrusive medical action now had a trigger. Crucial to note here is that the understanding of the human body already existed through Holistic thought and application in Medicine.

### 3.0 Holistic vs. Intrusive theory

Before attempting to analyse the Holistic and intrusive approaches to understanding the human body, we must first analyse the meanings of applications themselves. According to Dr. Michelle Wright in her article *‘Holistic Medicine’*, ‘Holistic medicine means consideration of the complete person, physically, psychologically, socially, and spiritually, in the management and prevention of disease.’<sup>8</sup> If we then compare this to the meaning of intrusive medicinal application, we see a significant difference behind their intended applications. Due to intrusive medicine having such a large influence on western society, it is complex to find one definition to its medical application, thus we will focus on the meaning of intrusive to attempt an understanding. According to the Webster’s English dictionary, the definition of intrusive is as follows: “intruding or tending to intrude”<sup>9</sup>, thus the origin of the word intrusive results directly from intrude meaning “To put or force in

<sup>7</sup> Sennet, R., (1996), *“Flesh and stone: The body and the city in western civilization”*, W.W. Norton & Company, USA

<sup>8</sup> Wright, Dr. M, (2010), *‘Holistic Medicine’*, The British Holistic Medicine Association, United Kingdom, sourced from [www.patient.co.uk/doctor/Holistic-Medicine.html](http://www.patient.co.uk/doctor/Holistic-Medicine.html) (last updated: 12th February 2010)

<sup>9</sup> Webster’s Compact Dictionary of the English language, (1999), Trident press international, United States of America

inappropriately, especially without invitation, fitness, or permission”<sup>10</sup> thus a translation of this meaning in medical application is the intent to intrude into the human body in order to treat a specific area; treating the problem at its source.

The first key variation which comes to mind is the difference in understanding required in the two very different applications of medicine. The Holistic approach requires an understanding of not only the body as a whole, but the life processes and a strong belief in the existence of spirituality, prior to an appropriate diagnosis resulting from theoretical analysis. On the other hand the intrusive form of medicine, as western culture is familiar with, requires a direct analysis on the source of the problem, with pure intent to treat only the problem via a forceful intrusion into the body. However, we must understand the means of diagnosis in intrusive medicine and its strong visual connection, in order to begin to interpret an architectural application.

The link between Vesalius’s texts “*De Humani Corporis Fabrica*” and the progression of Intrusive medicine is clearly a graphical relationship. If we analyse the methods of diagnosis prior to ‘intrusion’ into the body in intrusive medicine, we begin to see a connection between diagnosis and the graphical. With the use of X-rays, CAT scans and various other forms medical imagery, which western culture is very much familiar with, we begin to understand how the documentation behind Vesalius’s intrusive means of research relates directly in analysing the progression of intrusive medicine.

If we site the quote on Vesalius’s texts “*De Humani Corporis Fabrica*” from *section 2.0 Architecture and Human Anatomy: The visual connection*: “This book was based largely on human dissection and transformed anatomy into a subject that relied on observations taken directly from human dissections.”<sup>11</sup>, we understand how important this text was initiating the creation of a ‘body politic’ for intrusive medicine. When a doctor reads an x-ray he attempts to identify a difference in the image, from his knowledge sourced from graphical observation, in order to identify a problem. This would not be possible without the master image of the body and thus a ‘body politic’. If we now compare this to the understanding of theoretical diagnosis behind holistic medicines, in attempting to understand one’s body through a series of discussions and tests which do not involve intrusive means or medicinal imagery, we begin to see the key difference between the Holistic and intrusive applications of medicinal theory.

In an attempt to apply this resolution of difference between the holistic and intrusive medicinal applications, a translation of the above theory into an architectural interpretation was attempted diagrammatically throughout a structure called ‘Step 1’. The initial drawing of the tower seen in *figure 2*, attempted to translate the battle between the two very different forms of medicinal applications. Exposing the structural elements and implementing their organization into a complex systematic form was to compare to intrusive means of exposure and a graphical implementation of the human body. Furthermore the separation of each floor level purely to enhance visual perception was to make a statement of the strong connection between intrusive theory and graphical representation. The interpretation of holistic theory was to be applied through translating the meaning of the body as a vessel for spiritual transition into architecture. This was translated into architectural form through the application of the floor levels within the complex structural elements to highlight the importance of life within the complex structure. Furthermore, all applications of necessities and systems to be integrated into the structure to be exposed allowing for an understanding and the opportunity to visually perceive the function, and therefore highlighting the importance of a presence of theory. The parks which lay between the living sections are to highlight the importance behind Holistic theory and its integration to nature and the elements to assist in diagnosis and treatment.

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<sup>10</sup> Webster’s Compact Dictionary of the English language, (1999), Trident press international, United States of America

<sup>11</sup> BBC, (2012), *History: Andreas Vesalius (1514 – 1564)*, British Broadcasting Centre, United Kingdom, resourced on 27<sup>th</sup>/4<sup>th</sup>/2012, resourced from [http://www.bbc.co.uk/history/historic\\_figures/vesalius\\_andreas.shtml](http://www.bbc.co.uk/history/historic_figures/vesalius_andreas.shtml)

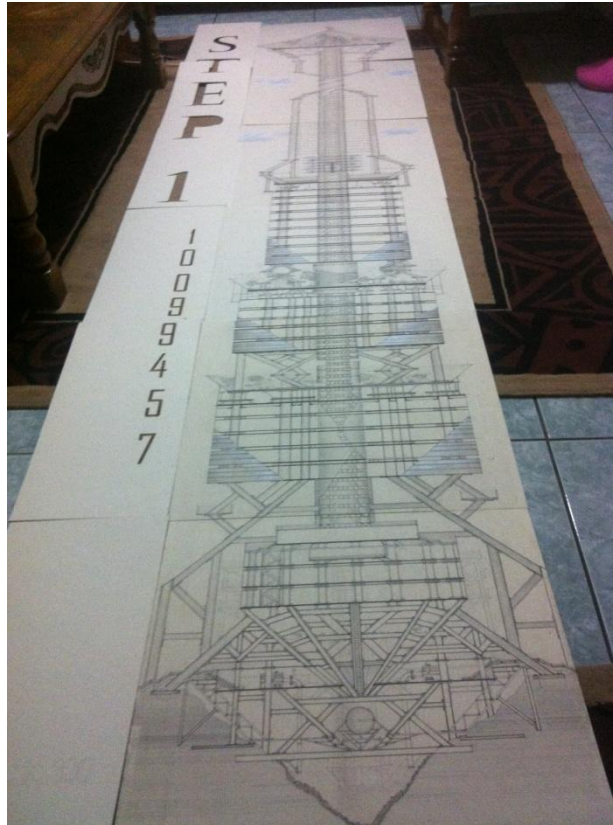


Figure 2: Submission 2, 'Step 1', Design Studio 9, Bilal Abou-Mosleh, University of South Australia, Masters of Architecture.

Although an attempt at the theory was made the theory was incorrect. A battle between the holistic and the intrusive did not occur throughout the structure but rather, the two worked together to create an architectural form working as one body of structure. After further analysis, it was realised that this inevitable, due to the fact that in architecture, our work will always result in making an incision into the sight, as what we create, no matter how theoretical our intent, will have a graphical connection with society as a result. Thus in order to progress this theory further, further research into a method of medicine which takes both a holistic and intrusive approach is needed.

#### 4.0 A pin prick to the point: Architecture and its relationship to Acupuncture

Following discussions with Ass. Prof. Thomas Mical, we look further into holistic medicine, in attempt to discover an intrusive application in holistic theory. Researching Traditional Chinese medicine, we gain an understanding into the belief behind applied Holistic medicine. As the Alternative Medicine foundation's texts 'Chinese Traditional Medicine: An Alternative & Complimentary Medicine Resource Guide' it is said that 'Traditional Chinese Medical Practitioners are trained to view the body, mind and spirit as one system, as opposed to western medicine practioners, who are told to regard each of these elements as seperate.'<sup>12</sup> Prior to analysing any treatment related to Traditional Chinese Medicine, it is important to note that prior to treatment a diagnosis by a professionally trained specialist in Chinese Medicinal Theory must occur<sup>13</sup>. Perhaps the most well known treatment under Traditional Chinese Medical theory is acupuncture. The definition of

<sup>12</sup> Alternative Medicine foundation, (6<sup>th</sup> may, 2010), 'Traditional Chinese Medicine: An Alternative and Complementary Medicine Resource Guide', Maryland, United States of America, sourced from : [www.amfoundation.org/tcm.htm#A\\_BRIEF\\_HISTORY\\_OF\\_TCM](http://www.amfoundation.org/tcm.htm#A_BRIEF_HISTORY_OF_TCM) (last updated: May 6<sup>th</sup> 2010)

<sup>13</sup> Alternative Medicine foundation, (6<sup>th</sup> may, 2010), 'Traditional Chinese Medicine: An Alternative and Complementary Medicine Resource Guide', Maryland, United States of America, sourced from : [www.amfoundation.org/tcm.htm#A\\_BRIEF\\_HISTORY\\_OF\\_TCM](http://www.amfoundation.org/tcm.htm#A_BRIEF_HISTORY_OF_TCM) (last updated: May 6<sup>th</sup> 2010)



acupuncture is quite broad, but according to the Alternative Medicine foundation's translation "Acupuncture is the insertion of needles into the skin at specific points in order to affect the flow of energy..."<sup>14</sup> Here not only is the importance of theory addressed by the advice that a diagnosis should occur prior to treatment, but an intrusive means of treatment is identified. After an emphasis on theory throughout the diagnosis process, when it is the case that acupuncture should be selected as the treatment, an intrusion into the body is made from a professional understanding of what needs to be addressed. This is a crucial factor in this research topic, as here the problem which was encountered through the research, of identifying a medical application which applies both holistic and intrusive theory, has been addressed. According to the definition of intrude, the needle penetrating the skin is to force an object into the body, and thus successfully falls within intrusive application, but rather than intruding to understand, the intrusion is made on the basis of a theoretical diagnosis.

i) The five elements theory & Traditional Chinese Medicine

A crucial factor in developing the theory to architectural application was the discovery in my research of the five elements theory and its crucial relationship to Traditional Chinese Medicine. Referring to the texts of the Alternative Medicine foundation:

*"The five elements theory, also called the five-phrase theory, holds that everything in the universe, including our health, is governed by five natural elements: wood, fire, earth, metal & water. This underscores the Chinese belief that human beings both physically & mentally are intertwined with nature."*<sup>15</sup>

Furthermore, an explanation of how this theory relates to the application of Traditional Chinese Medicine was explained: Each of these five elements has a season, particular organs and senses associated with it.<sup>16</sup> For example fire is associated with early summer, the heart and small intestines.<sup>17</sup> This thus begins to show the systematic relationship behind the belief of Traditional Chinese medicine. The belief that a connection is present between nature and the human body and furthermore, the emphasis on every element in the body being interconnected, reinforces a systematic notion that needs to be investigated in order to successfully interpret the medicinal theory into architecture.

It is further stated that "In western medicines teaching of a separation between mind and body whilst in Traditional Chinese Medicine it is viewed that each organ has particular body and mind functions."<sup>18</sup> Here it is important that in order to successfully translate this theory into architectural form, we look into relationship between the body and all its components, in order to create an appropriate theoretical 'body politic' from the analysis of the appropriate Medical & Human Anatomical theory. The texts of George B. Bridgman '*the Human Machine: The Anatomical structure & mechanism of the human body*' Gave the final review of the body needed in order to obtain an appropriate body politic. Bridgman reviews the anatomical structure of the body

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<sup>14</sup> Alternative Medicine foundation, (6<sup>th</sup> may, 2010), "Traditional Chinese Medicine: An Alternative and Complementary Medicine Resource Guide", Maryland, United States of America, sourced from : [www.amfoundation.org/tcm.htm#A\\_BRIEF\\_HISTORY\\_OF\\_TCM](http://www.amfoundation.org/tcm.htm#A_BRIEF_HISTORY_OF_TCM) (last updated: May 6<sup>th</sup> 2010)

<sup>15</sup> Alternative Medicine foundation, (6<sup>th</sup> may, 2010), "Traditional Chinese Medicine: An Alternative and Complementary Medicine Resource Guide", Maryland, United States of America, sourced from : [www.amfoundation.org/tcm.htm#A\\_BRIEF\\_HISTORY\\_OF\\_TCM](http://www.amfoundation.org/tcm.htm#A_BRIEF_HISTORY_OF_TCM) (last updated: May 6<sup>th</sup> 2010)

<sup>16</sup> Alternative Medicine foundation, (6<sup>th</sup> may, 2010), "Traditional Chinese Medicine: An Alternative and Complementary Medicine Resource Guide", Maryland, United States of America, sourced from : [www.amfoundation.org/tcm.htm#A\\_BRIEF\\_HISTORY\\_OF\\_TCM](http://www.amfoundation.org/tcm.htm#A_BRIEF_HISTORY_OF_TCM) (last updated: May 6<sup>th</sup> 2010)

<sup>17</sup> Alternative Medicine foundation, (6<sup>th</sup> may, 2010), "Traditional Chinese Medicine: An Alternative and Complementary Medicine Resource Guide", Maryland, United States of America, sourced from : [www.amfoundation.org/tcm.htm#A\\_BRIEF\\_HISTORY\\_OF\\_TCM](http://www.amfoundation.org/tcm.htm#A_BRIEF_HISTORY_OF_TCM) (last updated: May 6<sup>th</sup> 2010)

<sup>18</sup> Alternative Medicine foundation, (6<sup>th</sup> may, 2010), "Traditional Chinese Medicine: An Alternative and Complementary Medicine Resource Guide", Maryland, United States of America, sourced from : [www.amfoundation.org/tcm.htm#A\\_BRIEF\\_HISTORY\\_OF\\_TCM](http://www.amfoundation.org/tcm.htm#A_BRIEF_HISTORY_OF_TCM) (last updated: May 6<sup>th</sup> 2010)

not as a whole, but rather provides a transitioning segmented view of the body using appropriate graphical representations, explaining the interrelation between each of the bodies' components in an attempt to view the body as a machine<sup>19</sup>. Perhaps this relationship in architecture is best translated in the text "Body, Memory & Architecture" by Kent C. Bloomer and Charles W. Moore "Architecture is a highly specialized system with a set of prescribed technical goals rather than a sensual social art responsive to real human desires and feelings"<sup>20</sup> Here we see an emphasis on architecture as a specialized system, which is important in relating this specialized systematic ideology of architecture, to the specialized system of the human body.



Figure 3: Submission 3, 'Step 1 Model', Design Studio 9, Bilal Abou-Mosleh, University of South Australia, Masters of Architecture.

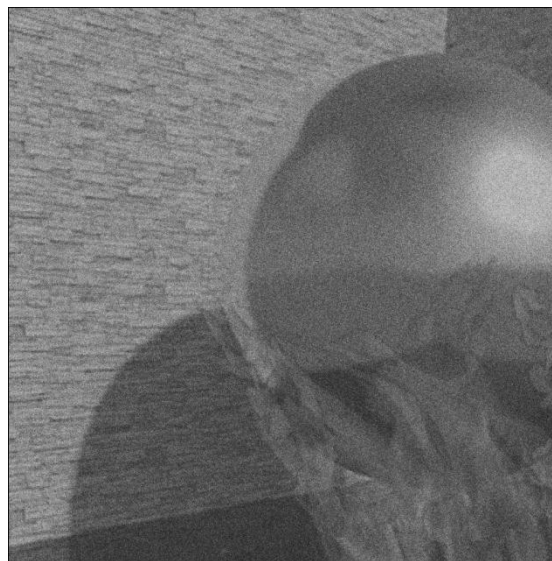


Figure 4: Submission 3, 'Flaming Ball Concept acquired through application of five element theory', Design Studio 9, Bilal Abou-Mosleh, University of South Australia, Masters of Architecture.

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<sup>19</sup> Bridgman, G.B., (1939), *"The Human Machine: The anatomical structure and mechanism of the Human Body"*, Dover publications, New York, United States of America

<sup>20</sup> Bloomer, K. C., Moore, C. W., Yudell, R. J., (1977), *"Body, Memory, and Architecture"*, New Haven and London Yale University Press, USA



## 5.0 Conclusion: The systematic

The intent of this paper was to create a body politic for interpretation of the human body into architectural form. It is important to note the complexity of the human system when attempting such an interpretation, and thus through the deliberations of theory, we have grounding to reassess the true meaning of a body politic. The understanding of a body politic according to Sennett's texts is "the need for a master image of the body"<sup>21</sup> we have clearly discussed how a purely graphical translation of the human body into architectural form demises the meaning of the human body. Thus, rather than declaring a master image for the body in order to translate this human anatomical theory, we will put forward a theoretical approach which leaves an opportunity in ones perception of how to develop an architectural form accordingly. Therefore, the theoretical discourse puts forward an analogy for the 'theoretical body politic' in translation to architectural form:

*A theoretical display in understanding of the bodies' complexity, with sufficient theoretical understanding in the attempted human anatomical theory/ medical application you endeavour to translate into architectural form.*

But I pose this question in finish, *how can we translate human form successfully without re-creating life?*



Figure 5: Submission 3, 'Final Presentation Step 1, Design Studio 9, Bilal Abou-Mosleh, University of South Australia, Masters of Architecture.

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<sup>21</sup> Sennet, R., (1996), "Flesh and stone: The body and the city in western civilization", W.W. Norton & Company, USA

## Image Appendix

Cover Image: Original image sourced from:

Title: The mechanics of mediation: Body Control

<http://mysticrebels.com/control.htm>

Figure 1: Interim submission 2: Design Studio 9

Bilal Abou-Mosleh,

University of South Australia,

Masters of Architecture. 2012

Figure 2: Submission 2 - 'Step 1' Design Studio 9

Bilal Abou-Mosleh,

University of South Australia,

Masters of Architecture. 2012

Figure 3: Submission 3- 'Step 1 Model', Design Studio 9

Bilal Abou-Mosleh,

University of South Australia,

Masters of Architecture. 2012

Figure 4: Submission 3, 'Flaming Ball Concept acquired through application of five element theory', Design Studio 9,

Bilal Abou-Mosleh,

University of South Australia,

Masters of Architecture. 2012

Figure 5: Submission 3, 'Final Presentation Step 1, Design Studio 9,

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Masters of Architecture. 2012

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