李山讀書筆記

REFLECTIONS OF LI SHAN

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序

阅读生物艺术创始人李山

李山，是我在上海戏剧学院舞美系的绘画老师。与中规中矩的授课形式不同，李山提倡我们在运动中体验生命的张力，他始终认为艺术产生于对生命发自内心的体验。他对事物敏锐的洞察力和对生命的思考，让我深受启发。因此，当李山在第45届威尼斯双年展上被马修·巴尼的作品《劳顿候选人》——一个半人半兽像吸引，并由此抛开“政治波普”艺术，义无反顾地选择生物艺术，我毫不惊讶。

1993年，李山开始思考生物科学与艺术创作的相关问题，即生物艺术，并做了大量的知识准备工作。在李山看来，生物艺术就是将生命作为使用材料来构建生物本身。生物学研究的热点是对生物基因遗传的干预和生物基因组的人工制造，艺术家根据转基因原理和基因制造原理制作艺术方案，然后按照基因工程的运作方式来构建带有生物性状的艺术品。

1998年初，李山完成了生物艺术史上的第一个生物艺术方案《阅读》，这也是艺术史上艺术家首次以分子生物学的科学思想为指导完成的艺术方案。对于该方案，李山是这样陈述的：

“只要给核糖体在阅读mRNA时设置一个小小的障碍，将需要的氨基酸安插到不是mRNA相对应的密码子上，迫使信息失效。1998年初，我分别将鱼和蝴蝶的性细胞按照上述方法操作之后，再放回原处，过了六天，我取出鱼的卵和蝴蝶的精子，打开它们的细胞核，各自取出一段DNA，由于它们的遗传密码子已失效，就有可能将鱼的密码子按偶数，蝴蝶的密码子按奇数的顺序连接起来，核糖体跟往常一样沿着mRNA链移动，一种携带人类文化意图的蛋白质就被合成了。”

艺术批评家张平杰在《生物艺术的道路》一文中说：“在可查的资料里，1998年是生物艺术的起始点（虽然有生命的生物艺术其实在两年以后发生），这一年李山在纽约完成了一个生物艺术方案《阅读》……李山的这个方案是生物艺术史上第一个生物艺术方案，其重要意义在于，这个方案具有生物转基因和生物基因重组的思想，并且它通过生物基因工程的操作方式来构建作品。” 显然，《阅读》成为了生物艺术起始的标志，李山也因此成为了以生物学知识开展生物艺术实验的第一人。

两年后的某一天，美籍巴西艺术家爱德瓦多·卡茨（Eduardo Kac）“头脑中突然闪现”了一个怪物——一只身上发光的狼，他想将这只狼做成活体，不过科学家最终建议他改做兔子，于是《阿尔巴》荧光兔在科学家的实验中诞生了，这是生物艺术史上的第一件活体作品。相对于李山的《阅读》，这件作品是在爱德瓦多的头脑中突然闪现的，不具备生物学知识和对生物艺术的深刻思考。可以设想，如果李山有实验室，那么他的生物艺术方案《阅读》，即鱼与蝴蝶的基因重组作品在1998年便会问世。

李山的《阅读》提出了生物艺术的概念，揭示了什么是生物艺术、生物艺术的创作方法以及生物艺术作品的样式，这就为论述生物艺术提供了一个理论基础和讨论范围。2001年，李山通过澳大利亚广播电台向澳洲大陆呼喊“人类应该回到蛋白质状态！”这是李山在1998年初完成《阅读》方案之后，对生命、对物种的深度思考，对人类的深度反省，也是艺术家区别于科学家的思考所在。艺术家通过艺术创作向人类提出极其严肃而尖锐的问题：“回到蛋白质状态”的核心思想是“重新开始”，人类要不要重新开始？人类是否愿意从最高的生物阶序上走下来，与它类平等相处？这些问题发人深省！

可以说李山至少有三个形象：第一个是艺术家，在中国当代艺术运动中，李山是不畏禁忌、勇于开创的先行者；第二个是科学家，骨子里对生物的迷恋开启了李山对生物艺术的实践；第三个是思想家，“生命等价，万物大同”的情怀，体现了李山对生命的悲悯。当这三重身份兼具于李山一人时，他创造出了当代艺术领域里开阔而宏观的新世界——生物艺术。

从此种意义说，李山选择了一种独一无二的艺术表达形式和更加广阔的创作空间。与一般艺术创作者关心传统文化所不同的是，李山完全跳脱了艺术创作的范式、技巧等窠臼，摒弃了对社会经验的表达，而是站立于寰宇星空中，俯视世间万物的生存状态，表达着内心深处对生命的悲悯与关怀。

李山的艺术想象力是超越时代的。就像印象派画家梵高、莫奈一样，他们的作品一开始不但不被认可，甚至受尽嘲讽，这是伟大艺术诞生之初的必然“阵痛”。随着历史的推演，印象派绘画成就了西方绘画史上划时代的艺术流派。与西方世界强调个人创造力有所不同，中国人延续着传承社会经验的传统。创造力是艺术家个人价值的体现，更是其个人存在的外现，因而当李山选择生物艺术作为其艺术生命时，这恰恰体现了他的勇气和创造力。李山以生物艺术为支点，将人类学、环境学、生命科学引入艺术创作的模式与范畴，给冰冷的生物科学技术以温润的人文关怀，并赋予其全新的艺术形式，同时开疆辟土地从生命演进的动态视角出发，演绎了生物技术发展所导致的一系列问题。由于生物科技无限的发展可能，生物艺术这个全新的艺术派别也必将因李山而演化成一种新的美学观念。

尼采说，凡是想在工作上有所成就的人，都应该挑战它、拓展它，而不是详细地解释它。李山艺术创作形式的独树一帜，正是对尼采的呼应。作为一个有着敏感生物学触觉的艺术家，李山更愿意将自己看作是“生命的物质材料”，他总是试图将自己对传统与现代、生命与材料、经验与创造、规范与颠覆的思考，注入浩瀚的生命演进史中，将“众生平等”的情怀喷薄于艺术实验，表达着艺术家对自然的忧患。尽管这种“居高临下”俯视世界变化的精英之气与“天马行空”的创作体系让人觉得艰深晦涩，但是在李山的创作里，总是交织着对生命的尊重和对未来的想象，并藉由科学的手段，藉由基因的多变改变着生命的样式。

1996-2006年间，在知识准备的基础上，李山开始着手制作艺术方案，他以分子生物学的科学原理，将自己与昆虫的基因进行“重组”，构建一种新物种，这一概念体现在《重组》方案的若干图片中。当人类开始有条件掌握改变生物命运的权杖，李山便毫不犹豫地从上帝的手中接过了创造生命的“魔法”，在他创造的生物世界里，生命以另一种形式自由地存在，完全不受伦理、道德的制约，演绎着一个没有上帝影子的新天地。

令人欣喜的是，《李山读书笔记》即将正式出版，这表明生物艺术已经首先得到了文化界、艺术界的肯定和支持。《李山读书笔记》中所记述的生物学知识，属于当下生物科学最前沿的知识领域。该书出版的意义在于，它不仅为艺术方案《阅读》提供了可靠的、可以操作的知识基础，而更重要的是为这个方案，也是为生物艺术提供了艺术思想，以及由这些知识所编织起来的思想所诱发的一种探索精神和实验理念。李山，这位艺术界的科学家、思想者，正在为人们打开一扇眺望未来世界的艺术大门。

今天，中国当代艺术正面临着意义范式缺席和范式转换受阻、文脉的混乱和批评立场的失守、实验性的缺失以及对历史资源的争夺等问题。在这样的历史文化背景下，出版《李山读书笔记》将会给中国当代艺术一个震动、一个反省和一个未来。

上海大学出版社副社长、艺术总监 张天志

2013-5-5

Preface

Li Shan — Creator of Bioart

Li Shan is my painting teacher in the Stage Design Department of Shanghai Theatre Academy. Different from the rule-abiding traditional teaching methods, what Mr. Li Shan advocated to us was to experience the tension of life in motion. He had always held that art originated from one's inner experience of life. His acute insight into things, respect for and thought on life had a deep influence on me. Therefore, I was not surprised at all when he was attracted by Matthew Barney's work—Louqhton Candidate—a half-man-half-beast portrait at the 45th Venice Biennale and therefore discarded "Political Pop" Art.

In 1993, Li Shan began to contemplate issues related to bioscience and artistic creation that is Bioart and made a large quantity of preparations of knowledge. In Li Shan's opinion, Bioart is to build organisms themselves by using life as material. The hotspot of biology is the interference in biological genetic inheritance and artificial production of biological genomes while artists formulate art projects according to the principle of transgenosis and gene production and then compose artworks with biological traits based on the operation of genetic engineering.

At the beginning of 1998, Li Shan finished the first Bioart project in Bioart history—Reading, which is also the first art project completed by an artist with the guidance of the scientific idea of molecular biology. Li Shan presented this project as follows:

"(It only requires) setting a small obstacle against the ribosome when reading mRNA and inserting the necessary amino acid on a codon that doesn't correspond to mRNA to force the information to lose efficacy. At the beginning of 1998, I first operated the sexual cells of a fish and a butterfly according to the above method and then put them back. 6 days later, I took out the egg of the fish and the sperm of the butterfly, opened their nucleuses and drew a section of DNA from each. As their genetic codon had already lost efficacy, it was possible that the codon of the fish was ordered by the order of even numbers and that of the butterfly by odd numbers while ribosome still moved along the mRNA chain as usual. So a kind of protein carrying human cultural intent was synthesized."

Art critic Zhang Pingjie says in the essay—*The Road of Bioart*, "In available material, the year of 1998 was the starting point of Bioart (although living Bioart actually happened two years later). This year, Li Shan finished the first Bioart project 'Reading' in New York.... This is the first Bioart project in Bioart history. Its significance is that this project embodies the idea of biological transgene and biological genetic recombination and it creates the work through the operation of genentic engineering." Apparently, Reading marked the beginning of Bioart and Li Shan became the first person that carried out a Bioart experiment with bioscience knowledge.

One day two years later, a monster—a shining wolf—"suddenly flashed through the mind" of American Brazilian artist Eduardo Kac. He wanted to make the wolf into a living organism, but scientists eventually advised him to make a rabbit, hence the birth of a fluorescent rabbit—Alba. This was the first living organism work in Bioart history. However, in comparison to Li Shan's project—Reading, this piece of work only flashed through Eduardo Kac's mind and didn't involve bioscience knowledge or penetrating thought on Bioart. We might well imagine, if Li Shan had a laboratory, his Bioart project—Reading, or the work of genetic combination of a fish and a butterfly would have been born as early as 1998.

Li Shan's Reading puts forward the concept of Bioart, reveals what Bioart is, the creating method of Bioart and the patterns of Bioart works. This provides a theoretical basis and scope of discussion for the illustrations on Bioart. In 2001, Li Shan was in Australia and called out "Human beings should return to the protein state" to the Australian continent through Radio Australian. This is Li Shan's in-depth thought on life and species, reflection upon human beings after the completion of the Reading project at the beginning of 1998 and thought of an artist that is different from a scientist as well. Artists raise serious and sharp questions to the human kind through artistic creation. These questions are testing the human mind and human attitude on whether we are willing to walk down from the highest biological order to live equally with other species. The core idea of "returning to the protein state" is to "start anew" and whether we want to start anew.

We can say that Li Shan has at least three images. The first one is an artist. In Chinese contemporary art movement, Li Shan is a pioneer that is not afraid of taboos and dares to innovate. The second is a scientist. He engaged in bioart creation because of an all—consuming love of biology. The third is a thinker. The sentiment that "All lives are equal in value and all things should be in harmony" displays Li Shan's sympathy for all lives. When these three identities are combined on Li Shan, he creats an open and macroscopic new world—Bioart.

In this sense, Li Shan has chosen a unique way of artistic expression and vaster creative space. Different from the average artists who are concerned about traditional culture, Li Shan has completely shed the restraints of canonical form or skills in artistic creation, and has abandoned the expressions of his social experience, but overlooks the states of all the living beings from the sky and expresses his innermost sympathy and concern for them.

Li Shan's imagination in art surpasses the times. Just as what impressionists like Vincent van Gogh and Claude Monet suffered, whose works were not accepted at first and were even sneered at, it is the inevitable "throse" of the creation of great art. With the evolution of history, Impressionism managed to become an epoch-making style in western painting history. Different from the Western world that emphasizes personal creativity, Chinese people are carrying on the tradition to pass on social experience. Creativity is the representation of an artist's personal value and the exterior display of his or her personal existence. Therefore, when Li Shan chose Bioart as his artistic life, it exactly represented his courage and creativity. Li Shan uses Bioart as the prop and introduces anthropology, environmental science and life science into the creating pattern and scope of art, confers nurturing humanistic concerns and brands new artistic existence site on cold bioscience technology and illustrates a series of problems caused by the development of biotechnology. With the infinite development of

biotechnology, Bioart, an entirely new style of art, will certainly be evolved into a new aesthetic concept because of Li Shan.

Nietzsche said, anyone that wants to achieve something at work should challenge it and expand it instead of explaining it in detail. Li Shan's uniqueness in the way of artistic creation is a correspondence to Nietzsche. As an artist with acute sensitivity of biology, Li Shan is more willing to regard himself as "a material of life". He is always trying to inject his thoughts on tradition and modernity, life and material, experience and creation, standard and subversion into the vast history of life evolution, filling artistic experiments with the sentiment of "all lives are equal" and expressing an artist's concerns about nature. Although the spirit that makes him overlooks from "a leaing position" and creation system that "has a powerful and unrestrained style" make people feel hard to understand, Li Shan's works are always intertwined with respect for life and imagination of the future and are changing the patterns of life through scientific means and the changeability of genes.

From 1996 to 2006, based on his preparations of knowledge, artist Li Shan began to produce art projects. Li Shan "recombined" his genes with the genes of insects according to the scientific principle of molecular biology and created a new species. This concept is displayed in a number of pictures in Recombination project. When human beings were able to change the fate of the living creatures, Li Shan received the "magic" for creating life from the hand of God without any hesitation. In the world of organisms created by him, life exists freely in another form and plays out the new world without the shadow of God.

What's gratifying, *Reflections of Li Shan*, his reading notes, is about to be published. This indicates that Bioart has, first of all, gained the recognition and support of the cultural field and art field. The biological knowledge described in Li Shan's book lies in the most advanced knowledge filed of bioscience. The significance of the publication of this book lies in that it not only provides reliable and operable knowledge basis for the art project—Reading; more importantly, it also provides artistic thought, an exploring spirit and experiment concept evoked by the thoughts woven with the knowledge. Li Shan, a scientist and thinker of the art field, is opening a gate of art in the future.

Today, Chinese contemporary art is facing the lack of meaning paradigm, obstructed paradigm conversion, context chaos and loss of criticizing stance, loss of experimental feature and fight for historic resources. Against such a historic and cultural background, the publication of *Reflections of Li Shan* will bring a shock, self-reflection and future for Chinese contemporary art.

Zhang Tianzhi

Vice-president and Art Director of Shanghai University Press

May 5, 2013

李山讀書筆記

1995年於紐約秋園

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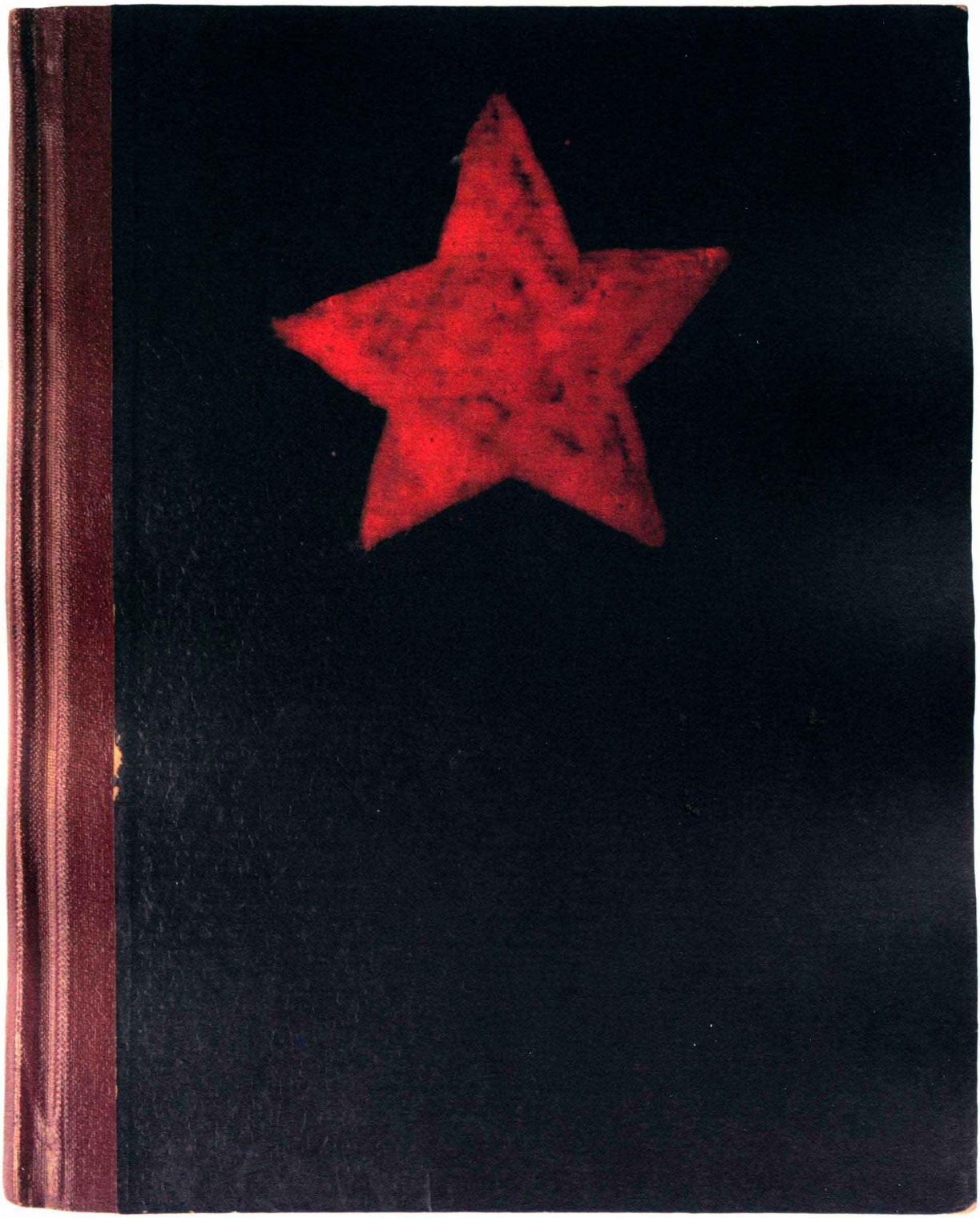
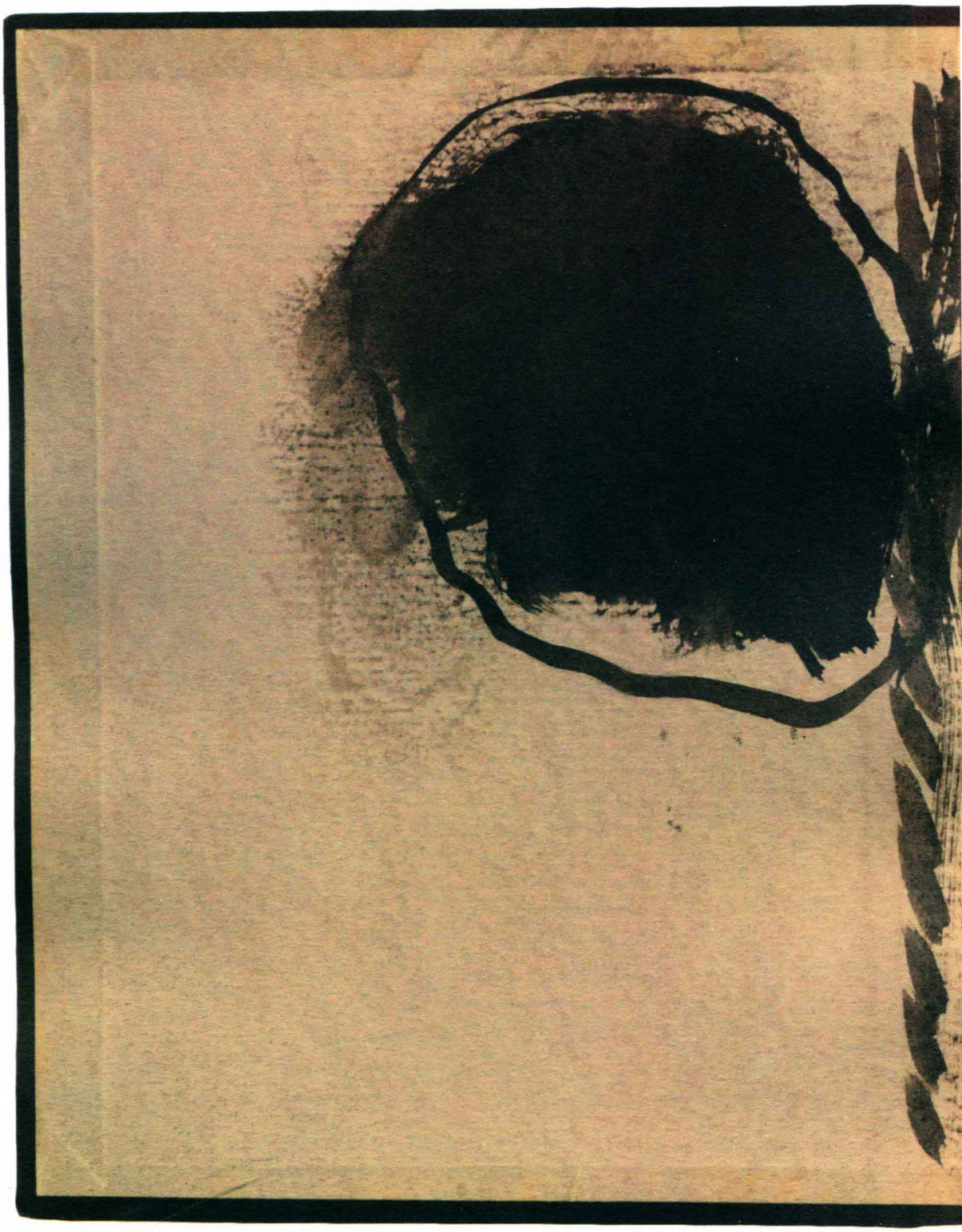




1994年2月[redacted]林完稿

一、地球大气演化的三个阶段：

[redacted]

二、初始大气：在地球演化的初期

[redacted]

三、初级大气：是地球内部内部物

[redacted]

理化学反应析出来的，它的特征是

[redacted]

四、次生大气：即氧化大气，以氮和氧

[redacted]

为主的大气。是植物的光合作用为大气

补充供了氧气。

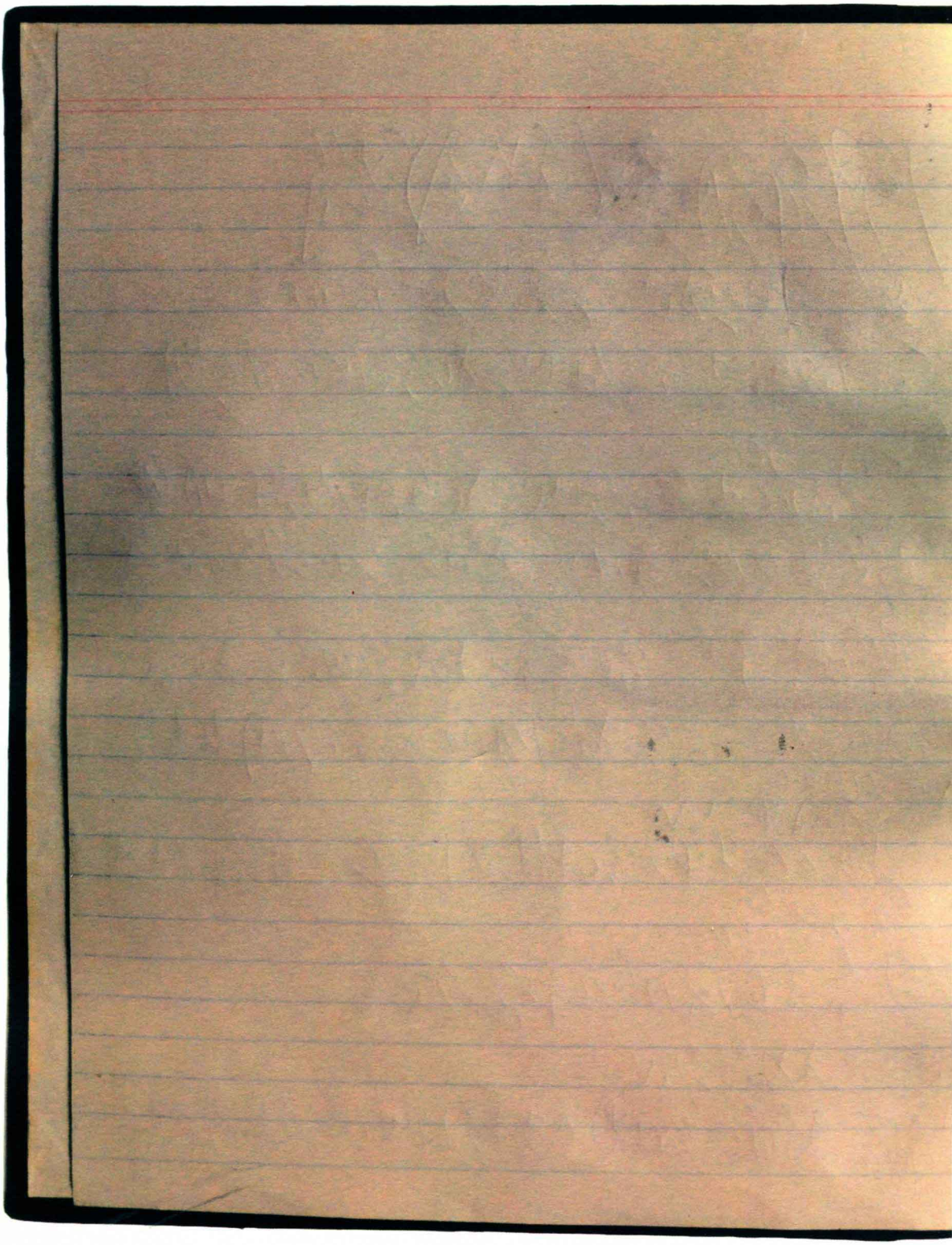
据此科学家推测，35亿年前，地球

出现了生命。

生命起源的几个学派：

1. 奥巴林学派

2. 米勒生物学家奥巴林在他的《生命起



强调了一书中将生命起源的历史分为三阶段：有机物的产生；蛋白质、多肽多聚合物形成；具有新陈代谢机能的原始细胞产生。生命发生的可能过程为原始细胞的多分子团聚体、团聚体内部结构的完善可以导致原始生命的出现。

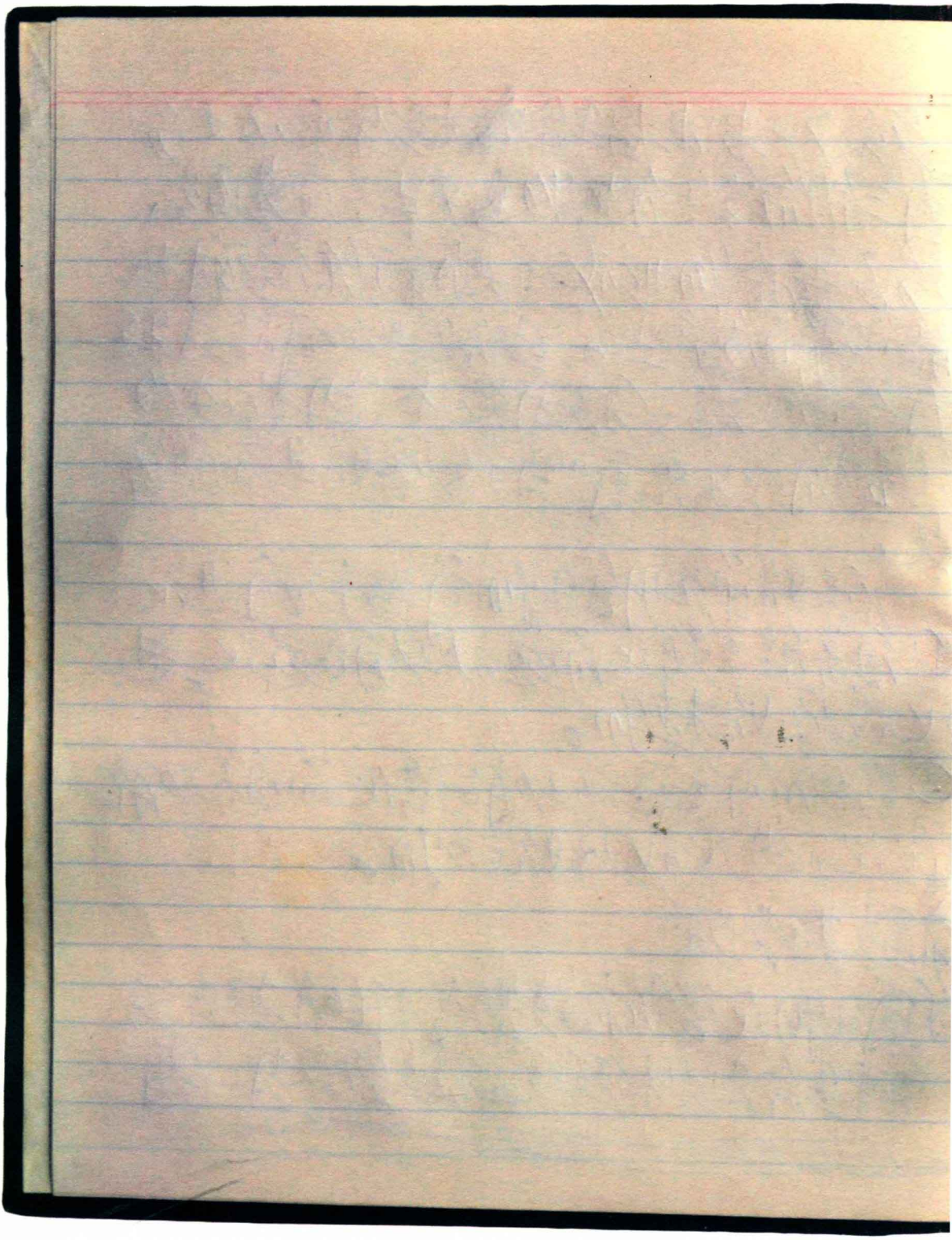
原始单细胞生物向两个方向进化：

① 自养能力强化而运动功能退化，进化成原始植物。

② 另一方向是运动功能强化而自养功能退化，进化成原始动物。

福克斯学派

美国生物化学家福克斯于1960年提出了另一种生命起源假说。福克斯认为，早期



地球温度很高，依靠热能就是从简单的化合物形成复杂的化合物。

火山喷流

外来生命学说 等等

35亿前的化石（在南非发现）含有细菌球状和杆状结构。

此后的20亿年，生命一片空白，在漫长时间里谁在统治地球，我们一无所知。

大约 4.5亿年前地球出现海洋。三叶虫开始统治地球。

~~大约5亿年前~~ 生物从海洋中登上陆地，其先驱是植物（？）

早期两栖动物如青蛙、蜘蛛和昆虫等类动物在两栖动物大迁徙时，他们