7.5 The Age of PROGRESS and MODERNITY

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1. 释义

All right, late in the 18th century and early 19th century, developments in science on the European continent /are going **to mess** 弄乱；搞糟 Europeans' crap 质量差的东西；蹩脚货;屎;废话；胡说；胡扯 **up**. They’ re not going to know *which way is up*, which way is down, or which way is sideways 向一边（或一侧）的，向旁边的；（工作，职位）平级变动的. So I reckon 认为；估计 /we ought to talk about it. So if you’ re ready to get them brain cows milked with a healthy dose of irrationality 不合理；无理性, let’ s get to it.

Example 1. 案例
sideways

(ad.)
1.to, towards or from the side 往（或向、从）一侧
•He **looked sideways** at her. 他**斜着眼看**她。
•The truck **skidded (v.) sideways** across the road.卡车**横着滑到**公路另一侧。
•He has been moved sideways (= moved to another job at the same level as before, not higher or lower) .他平级调动工作了。

2.with one side facing (v.) forwards 侧着；侧面朝前
•She **sat sideways** on the chair.她**侧坐**在椅子上。

DERIVATIVES 派生词
side•ways adj
•She slid him **a sideways glance**. 她**斜眼**看了他一下。
•a sideways move 侧移

Now in the last video, we talked about Charles Darwin /and his new theory of evolution and natural selection. And Darwin’ s work caused (v.) *no small 不小的 stir* (搅动；引起轰动) 不小的震动 in the religious world, since his work **pointed out that** /humans have evolved (v.) over millions of years /and were not necessarily *the objects* of *a special creation 特殊创造 of God*.

Now **to add to** 除了…之外，还 all *the scientific (a.) overturning* (n.)推翻；颠覆 of *previously held 捂住；拥抱 darlings* 曾被珍视的宠儿(即以前的伪科学), 主 these advances in science 谓 had other consequences as well, including the rise of positivism 实证主义. This was the idea /that 主 any rational 合理的；理性的 conclusion 谓 must be able **to be scientifically verified** (v.)证实；查证；核实 or provable (a.)可证明的；可以查清的 through mathematical quantification 定

量，量化. In other words, positivism **taught (v.) that** /truth can only **be known** (v.) through science and math.

除了颠覆以往备受推崇的科学理论外，这些科学进步还带来了其他影响，实证主义的兴起便是其中之一。

Example 2. 案例

短语 to add to X, Y happened = 「除了X之外，还发生了Y」

"to add to" 在此处的意思是「除了…之外，还…」或「不仅如此，另外…」，用于引出一个补充性的信息，强调科学进步不仅带来了前文提到的颠覆（推翻旧理论），还额外导致其他后果（如实证主义兴起）。

- Now **to add to** all the scientific overturning…, these advances… had other consequences… 除了颠覆以往…理论外，这些科学进步还带来了其他影响…
- To add to his financial troubles, his car broke down. 除了财务困境，他的车还坏了。

positivism

实证主义（Positivism）是19世纪兴起的一种哲学思潮，核心主张是：唯有通过科学方法和数学验证的知识才是真正的知识。它从根本上拒绝形而上学、宗教或直觉等非经验性的认知方式。以下是其关键要点：

- 科学至上： 只有能被观察、实验和数学量化的结论才是真理（即"可验证性原则"）。 例：心理学必须通过行为实验而非内省来研究。
- 反"形而上学"： 拒绝讨论"上帝""灵魂"等无法实证的概念，认为它们是伪命题。
- 统一科学观： 主张所有学科（包括社会科学）都应采用自然科学的研究方法。

创始人：**法国哲学家奥古斯特•孔德（Auguste Comte），他在《实证哲学教程》中提出人类认知发展的三阶段：**
- 神学阶段（用超自然力量解释世界）
- 形而上学阶段（用抽象概念如"本质"解释世界）（这意味着马哲的破产，马克思哲学就喜欢讲"本质"）
- 实证阶段（完全依赖科学观察和逻辑）

影响领域： 直接推动了社会学、心理学等学科的"科学化"，也是现代科学方法论的基础之一。

局限性： 科学无法解决所有问题（如伦理价值判断）。

在中文里，实证主义常与"经验主义"对比讨论：
相同点：都强调经验观察的重要性
不同点：实证主义更极端，要求必须通过数学化/公式化验证（如经济学中的数学模型）。

若需一句话总结： 实证主义是一种"不能量化的知识，就不配叫知识"的哲学立场。

On the *flip（使）快速翻转 side* 反面；相反的一面, if a truth could not be verified (v.) in those ways, then it could not be considered (v.) truly true. And look, there’ s gonna be a lot of mind-bending 致幻的；使极度兴奋的;令人费解的；令人震惊的 realities to explore /in this video, so if you need more help, then you can check out my AP Euro *review pack* /with just lots more practice (n.) on these issues, and will help you get an A in your class /and a five on your exam in May. Link in description.

另一方面，如果一个真理不能用这些方法验证，那么它就不能被认为是真正的真理。看，在这个视频中会有很多令人费解的现实需要探索，

Anyway, you can probably already see /why this development got a lot of people hot 易发怒的；（脾气）暴躁的. In Europe, where the majority of people were Christians of various stripes 条纹；线条;种类；类型, their entire religion **was based not on** scientific calculations

but on divine (a.)神的；上帝的；神圣的 revelation 启示；揭示 from God.
Positivism 实证主义 says that /主 you 谓 **discover** (v.) *what is true* about the world **from** the inside — like here' s a plant, **put** (v.) it **under** a microscope; here' s an electron, **math it out** 计算出来.
Christianity **teaches (v.) that** /主 the truest truths of the world 谓 come from outside the world, which is to say /from God 后定说明 as revealed (v.) in the Bible.

无论如何，你大概已经能明白为什么这一思潮会激怒许多人。在欧洲，绝大多数人信奉形形色色的基督教派系，而他们的整个宗教体系并非建立在科学计算之上，而是基于上帝的神圣启示。实证主义主张，真理要从内部去发现——比如观察一株植物，就把它放到显微镜下；研究一个电子，就用数学推导。而基督教则则教导说，世间最根本的真理来自外部世界之外，即《圣经》所启示的上帝。

So think about it: 主 the central doctrine 教义；学说 of Christianity 系 is the death and resurrection 复活 of Jesus Christ, and by his blood /God' s people **are atoned (v.) for** 赎罪 and forgiven. And that is an article（协议、契约的）条款，项 of belief, not scientific exploration or mathematical inquiry 探究；调查.
Like think about it 要不这样想,你想想看: even if a scientist possessed (v.) a real drop of Christ' s blood /and that scientist **put** that blood **on** a slide 载物玻璃片 under a microscope, that scientist would not see any atonement 赎罪；补偿 or forgiveness in that blood. He would just see blood.

Like that' s what it is 事情就是这样，事实就是如此. Atonement and forgiveness are believed (是纯粹靠信仰才存在. 即宗教中的东西, 就是信则有之,不信则无), not scientifically proven. Thus, 主 this emerging philosophical movement of positivism 实证主义 系 was a threat to *revealed religion* 启示宗教.

试想：基督教的核心教义，是耶稣基督的受难与复活，通过他的宝血，神的子民得以赎罪与赦免。而这完全属于信仰范畴，既非科学探索所能及，也非数学推演可验证。举个例子：即便科学家真的取得一滴基督的宝血，将其置于显微镜下观察，他看到的也仅仅是血液本身——既看不见"赎罪"，也测不出"赦免"。赎罪与赦免是凭信心领受的，而非科学实证的。正因如此，新兴的实证主义哲学对"启示宗教"构成了根本性威胁。

Example 3. 案例
atone

(v.)**~ (for sth)**: (formal) to act (v.) in a way that shows you are sorry for doing sth wrong in the past 赎（罪）；弥补（过错）
SYN make amends
•to atone (v.) for a crime 赎罪

→ atone 本来是 at one 的缩写，是“归一，与……保持一致”的意思。基督教中，牧师布道时经常要求教徒“to be at one with God”，意思是与上帝保持和谐一致。
按照基督教的教义，上帝与人类在生命和利益上, 原本是完美和谐的。但是，由于人类始祖亚当与夏娃违反上帝的禁令，偷吃禁果，犯下“原罪”，因此，上帝与人类产生了隔阂和疏远。因此，基督教徒要想与上帝重归于好，就必须进行赎罪，以扫清和解的阻碍。所以，单词atone一词, 逐渐演变为“赎罪、弥补”之意。

that is an article of belief

"Article" 在此指 "条款"、"信条" 或 "基本条目"，源自拉丁语 articulus（意为“关节、分项”）。**在宗教语境中，它特指 信仰体系中的核心教义条目**，类似于法律或章程中的具体条款。

常用于基督教，表示 信仰宣言中的正式信条。
例如： "the Articles of Faith"（信纲条款）
"the Thirty-Nine Articles"（英国国教《三十九条信纲》）

"And that is an article of belief, not scientific exploration or mathematical inquiry." → "而这完全属于信仰信条，既非科学探索所能及，也非数学推演可验证。"
此处 "article" 刻意与后文的 "scientific exploration" 形成对立，突显宗教真理与科学方法的本质差异。

revealed religion

"revealed religion" (启示宗教) 是指一种基于神圣启示的宗教。
它的核心理念是：关于上帝、人类、世界以及真理的某些重要知识和原则，并非通过人类自身的理性思考、哲学探索或科学研究而获得，而是直接由神灵（或上帝）向人类揭示、传达或显现的。

主要的启示宗教包括：
基督教 (Christianity)
犹太教 (Judaism)
伊斯兰教 (Islam)

这些宗教都有各自的神圣经典（如《圣经》、《古兰经》），被认为是上帝或其使者向人类传达旨意的载体。

Later in the 19th century, a commitment 承诺；保证；信奉 to this kind of thought 谓 had a significant consequence, namely a new relativism 相对主义 in moral values 道德价值观.
You see, since positivism obliterated 消灭；清除；废除 the idea /that there was *one overarching (a.)首要的；支配一切的,概莫能外的 truth* that applied to everyone everywhere, that meant that /all truth was relative 相对的. 主 What’ s true for you 系 may not **be true** for me, because we **evaluate** (v.)评估；评价 that truth **from** different perspectives 视角；观点, and there’ s no standard ((品质的) 标准，水平，规格，规范) 后定说明 outside of us /that can tell us *`主` which one of us 系 is right*.

到了19世纪后期，对这种思想（实证主义）的笃信，产生了一个重大后果——道德价值观的新相对主义。
要知道，**既然实证主义摧毁了"存在一种放之四海皆准的终极真理"的观念，这就意味着，所有真理都成了相对的。你的真理未必是我的真理，**因为我们从不同视角评判真理，**而世间并不存在一个超然的标准，来裁定孰是孰非。**

Example 4. 案例
overarching

(a.)[usually before noun] (formal) very important, because it includes or influences many things 非常重要的；首要的；概莫能外的
→ over-,在上，超过，-arch,首要，主要，archangel.

So under this way of thinking, no truth is objective 客观的 **but rather** relative. It’ s like that old story of *the blind men 后定说明 trying to describe the elephant*. Each man felt (v.) a different part of the elephant /and thus **came to different conclusions** about *what an elephant is like*.
主 **The blind man** holding the elephant’ s leg 谓 **said** /the elephant was like a tree; 主 the man holding the elephant’ s trunk 谓 said /an elephant was like a snake.
And so you see, Christianity would say /**we can know** the *true nature* 本质,真实本性 of an elephant /because **God tells us** *what the elephant is like*. But 主 positivism and the relativism it engendered 产生；引起 谓 said /**no one can really know (v.)** ***for sure*** 宾 *which part of the elephant* we’ re holding, so the truth of the elephant’ s essence 本质；实质 is relative /for each person.

在这种思维框架下，真理不再客观，而是彻底沦为相对。这就像那个著名的盲人摸象故事——每个盲人触摸到大象的不同部位，便对大象的形态得出截然不同的结论。摸到象腿的盲人宣称大象如同树木，抓住象鼻的盲人坚称大象宛若巨蛇。由此可见，基督教主张我们能认知大象的真实本质，因为上帝已将大象的真相启示于人；但"实证主义"及其催生的"相对主义"却断言：无人能确知自己触碰的究竟是大象的哪一部分，因此所谓大象的本质，对每个人而言都是相对的真理。

So hopefully you can feel (v.) the tension 后定说明 between these two poles. Like *on the one hand* 一方面, 主 the advances in science 谓 are creating *significant strides* 大步；进展 in knowing (v.) the world truly, but *on the other*, the further science advances (v.), the more uncertain things become. 主 *The overarching 首要的；支配一切的 name* 后定说明 that **was given to** this growing tension 系 was modernism 现代主义.

现在你应该能感受到这两种立场之间的张力了。一方面，科学进步让我们在认识世界的道路上突飞猛进；但另一方面，科学发展得越深入，事物反而变得越不确定。这种日益加剧的紧张关系，最终被冠以一个统称——现代主义。

So let’ s first talk about /how modernism was expressed 表达，表露；表现，体现 in philosophy, and particularly 主 these philosophers 谓 are going to emphasize (v.)强调；着重 **not** *the rational 理性的，理智的 nature* of the world **but** *the irrational 非理性的, 不合逻辑的；没有道理的 nature* of the world. This is known as — not surprisingly — irrationalism 非理性主义, and it challenged (v.) the conclusions of the Enlightenment significantly.

You see, Enlightenment philosophy **focused on** syllogistic (a.)三段论的；演绎推理的 reasoning 推理，推论 — like if A then B, therefore C — **easy peasy (a.)像豌豆的；<非正式，英>容易的，简单的 lemon squeezy** 小菜一碟，轻而易举.
But irrationalism broke (v.) from this /and instead **focused on** the irrational impulses 冲动；冲动行为 of human nature. They insisted that /human life and decisions could not be explained (v.) by rational postulates 假定；假设 /but rather had to **focus on** that more ethereal (a.)非现实的；虚幻的;优雅的；轻飘的；缥缈的；超凡的 human instinct 本能 called the spirit.

Example 5. 案例
ethereal

(a.) (formal) extremely delicate and light; seeming to belong to another, more spiritual, world 优雅的；轻飘的；缥缈的；超凡的
•ethereal music 优雅的音乐
•her ethereal beauty 她飘逸的美

→ 来自 ether (以太;醚；乙醚;苍穹；苍天；太空) 原义，苍穹，天空。即像天空一样的，飘渺的。

The poster boy 男性代言人 for irrationalism 系 was Friedrich Nietzsche. He argued that /reason actually **plays (v.) a very small role** in human life, that most people **are governed 统治；控制；支配 instead by** their passions 激情；情感 and *base instincts* 本能冲动.
I mean, humans like **to think of** themselves as rational creatures /weighing (v.) *cause 原因；事业；理由 and consequence* /before making decisions, but Nietzsche **came along** and was like "*Y’ all so crazy* though 不过，可是，然而." We like **to think of** ourselves **as** rational, Nietzsche argued, but we are really governed by emotions and passions.

非理性主义的代表人物，当属弗里德里希·尼采。他提出，理性在人类生活中实际作用，微乎其微，大多数人实则受激情与原始本能驱使。人类总爱自诩为理性生物，认为决策前必会权衡因果，但尼采横空出世，一语道破："诸位实在癫狂。"我们总以为自己很理性，尼采却揭穿道——情绪与激情才是我们的主宰。

And 主 each of thought we got into *the sorry state* 可悲的境地 谓 mainly because of Christianity. By his reckoning, 主 the great evil of modern humanity 系 was *how enslaved they were* to the Christian moral ethic 道德准则 /that had **been handed down to** 传承给 them, which **stifled (v.)扼杀；使窒息; 抑制；压制 creativity** /under a mountain of *ethical obligation* 道德义务.
So Nietzsche claims that /God was in fact dead (a.), and that 主 the Europeans of this age 谓 had killed him (指GOD), and 主 **that 谓 created** (v.) the possibility of the liberation 解放 of humanity.

尼采认为，人类陷入如此可悲的境地，主要归咎于基督教。在他看来，现代人最大的悲哀，就是被"世代相传的基督教道德伦理"所奴役——这些伦理义务如同高山，压得创造力喘不过气。因此尼采宣称，上帝实则已死，而这个时代的欧洲人亲手弑杀了祂。正是这一弑神之举，为人类的解放开辟了可能。

Along these same lines 沿着同样的路线, French philosopher Henri Bergson argued that /science is good (a.) for attaining 获得；得到 *practical knowledge 实用知识 of the world*. Like it’ s useful to know (v.) that /because of *the force of gravity* /you can’ t **just** jump out of a window /and **expect** not to be hurt.
Like that, *all things being equal* 在其他条件相同的情况下,一般而言, is useful. 像这样的情况（在其他条件相同的前提下）是有用的。 Now it’ s useful to know that /germs 细菌 cause (v.) disease, and it’ s useful to know /主 what kind of chemicals 谓 can cure (v.) those diseases. For those kinds of questions, Bergson argued, science is great.

Example 6. 案例
Like that, all things being equal, is useful.

像这样的情况（在其他条件相同的前提下）是有用的。

"Like that"
➔ 指代前文提到的具体案例（如"知道重力作用不能跳窗"）
➔ 中文可译为"这类知识"或"此类认知"

"all things being equal"
➔ 强调所述知识的适用条件是理想标准化状态
➔ **隐含"只要不出现特殊变量，该结论就普遍成立"**

But then he argued that /science breaks down /when trying to analyze and describe (v.) the essence 本质；实质；精髓 of true reality. 主 Reality, Bergson argued, 谓 could only be experienced intuitively 凭直觉地；直观地, not analyzed (v.) scientifically. So in this way, such philosophies taught (v.) /主 societal progress 谓 was achieved **not** mainly by rational scientific postulates 假设；基本条件 /**but** through struggle and conflict.

但他同时指出，当科学试图分析和描述真实存在的本质时，便会捉襟见肘。柏格森认为，现实只能通过直觉去体验，而无法用科学手段剖析。由此可见，这类哲学思想揭示出：社会进步的主要驱动力，并非理性的科学准则，而是斗争与冲突。

Now 主 this emphasis on irrationalism 谓 **was also applied to** the new field of psychology /thanks to Sigmund Freud, who **applied** these ideas **to** the internal world of the human

personality 个性，性格.
He argued that /human behavior was governed and determined /**not by** the rational choice of the individual 个人的理性选择 /**but rather by** the subconscious 潜意识的；下意识的 of the person, which was shaped (v.) by the experiences of childhood.
Again, we like to think (v.) /we **make our own rational decisions** in our lives, but Freud would say no—主 human decisions 系 are largely *the product* of all those childhood traumas 创伤；痛苦经历 /that you have repressed (v.)压抑；抑制 /and are struggling to make it back into your conscious awareness. That’ s what’ s making your decisions, not your pristine (a.)未开发的；处于原始状态的;崭新的；清新的 thinky-thinky part.

如今，这种对非理性主义的强调，也被应用到了心理学的新领域，这要归功于西格蒙德·弗洛伊德（Sigmund Freud），他将这些思想应用到了人类性格的内心世界。他认为，人类行为并非由个体的理性选择所支配和决定，而是由人的潜意识所主导，而潜意识又是由童年经历塑造的。
我们总喜欢认为，自己在生活中做出的决定是理性的，但弗洛伊德会说不——人类的决定很大程度上是那些被你压抑的童年创伤的产物，它们正试图重新浮现在你的意识层面。真正左右你决策的，并非你那自以为清醒理智的思考部分，而是这些深埋的、未被觉察的心理驱力。

Example 7. 案例
pristine

(a.)
1.fresh and clean, as if new崭新的；清新的
SYN immaculate
•The car is *in pristine (a.) condition* .这辆汽车是全新的。

2.not developed or changed in any way; left (v.) in its original condition 未开发的；处于原始状态的
SYN unspoiled (a.)
•pristine (a.), pollution-free (a.) beaches 没有污染的原始海滩

→ 来自拉丁语 pristinus,先前的，最早的，原始的，来自古拉丁语 pri,先前，早先，来自PIE*per,向前，词源同forth,first.-ist,最高级后缀。引申词义清新的，古朴的等。

Freud developed a method /for tracing (v.) 追踪；追溯 these links **from** the conscious **to** the subconscious /called psychoanalysis 精神分析. And 主 though many of his ideas 系 were later proven wrong, his advances **laid (v.) the groundwork for** the field of psychology.

And finally, 主 these new developments in the irrational nature of life 生命的非理性本质 谓 **were applied to** the natural sciences. Now **remember** from unit 4 **that** /according to Newtonian physics 牛顿物理学, the physical world **was objectively (ad.)客观地 knowable** (a.) through rational engagement. Oh look, drop (v.) an apple /and it **falls to** the floor, and we can predict (v.) *the rate 速率 of its falling* with an equation 等式，方程（式）. Oh look, planets move (v.) in ellipses 椭圆 around the sun, and we can model (v.)使仿效，使模仿;将…做成模型 the exact paths of those planets.

最后，这些关于生命的非理性本质的新发展，被应用于自然科学。记得第四单元讲过，根据牛顿物理学，物理世界是可以通过理性参与客观认识的。哦，看，一个苹果掉到地上，我们可以用一个方程来预测它掉下来的速度。哦，看，行星绕太阳运行，我们可以模拟这些行星的精确路径。

Then scientists came along 出现 in the late 19th century and early 20th century /to completely ruin (v.) *that predictable, tidy, rational way* of knowing (v.) the world. They said,

"Oh no, just go (v.) one click (v.) 往下一级深入,往深处再探一步 below all of these *immutable 不可改变的；永恒的 laws* of the universe /and you’ ll see that *everything is chaos*."

然而到了19世纪末20世纪初，科学家们彻底颠覆了这种可预测、井然有序的理性认知方式。他们宣称："别天真了！只要往这些所谓永恒宇宙法则的深处再探一步，你就会发现——万物皆混沌。"

Example 8. 案例

one click below

原始含义： 字面指电子设备的「一次点击操作」（如调整显微镜焦距, 如鼠标点击进入下一级菜单），但此处隐喻科学认知的层级突破。
在语境中的功能： 形容科学家们通过更精密的观测手段（如显微镜、粒子加速器），发现微观世界的混沌本质。

One such scientist was physicist 物理学家 Max Planck. Before Planck **came along**, 主 the prevailing 普遍的；流行的；占优势的 theory of atoms and atomic structure 原子结构 系 was that /they were *hard bits 小片，小块；小部分 of matter* that behaved (v.)行为，表现 predictably (ad.)可预言地. And **don’ t miss (v.) that** we’ re talking about atoms 别忘了我们讨论的是原子—like the very *building blocks* of reality /as we know it. According to the prevailing theory, reality is predictable /and can be described predictably.

物理学家马克斯·普朗克正是这样一位颠覆者。在普朗克之前，主流原子理论认为, 原子是行为可预测的固态微粒。请注意，我们讨论的可是原子——即构成现实世界的基本单元。根据当时的主流理论，现实世界不仅可预测，还能用确定性规律加以描述。

But Planck discovered that /atoms **radiated (v.)辐射；放射 heat /not** in constant flows 流，流动 **but** in *erratic (a.)不稳定的；无规律的 packets* 小袋，小包 called quanta 量子. And you, like me, do not really need to understand exactly *what that means*. 主 The thing you need to take away from that 系 is that /Planck’ s *quantum mechanics* 量子力学 show that /主 atoms 谓 behave (v.) irrationally, not **along rigidly predetermined 预先确定的；预先决定的 processes**. In other words, 主 the world at the atomic level 系 was actually chaotic 混乱的；无序的 and unpredictable.

Example 9. 案例

erratic

→ 来自PIE*ers, 漫游，偏离，引申义错误，词源同error. 即漫游的，偏离的。

Max Planck

(1858 年 4 月 23 日 - 1947 年 10 月 4 日) 是一位德国理论物理学家 ，他因发现" energy quanta 能量子"而于 1918 年获得诺贝尔物理学奖。
他是"量子理论"的创始人, 和现代物理学奠基人之一.

"普朗克常数"记为h，是一个物理常量，用以描述量子大小。在量子力学中占有重要的角色，马克斯·普朗克在1900年研究物体热辐射的规律时发现，**只有假定电磁波的发射和吸收不是连续的，而是一份一**

> **份地进行的，计算的结果才能和实验结果是相符。这样的一份能量叫做"能量子"，每一份"能量子"等于"普朗克常数乘以电磁辐射的频率"。这关系称为普朗克关系，**用方程表示普朗克关系式：
>
> E能量 $=$ h普朗克常数 $\times$ ν频率

The point is, after Planck’ s work, 主 the Newtonian universe 系 was no longer able **to adequately 充分地，足够地；适当地 describe** (v.) reality, and that was *an unsettling 令人不安的；令人担忧的 thought* 想法，看法.

Okay, click here to keep reviewing for unit 7 of AP European History. And if you’ re in the mood, click here to get my follow-along fill-in-the-blank note guides for all my videos that will help you get an A in your class and a five on your exam in May. And I’ ll catch you on the flip-flop. I’ m out.

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2. 中文释义

好的，在18世纪后期和19世纪早期，欧洲大陆的科学发展把欧洲人搞得晕头转向。他们不知道上下左右，不知所措。所以我觉得我们应该谈谈这个。所以，如果你准备好以一种非理性的方式充实自己的知识，那我们开始吧。

在上一个视频中，我们谈到了查尔斯·达尔文（Charles Darwin）以及他的进化和自然选择新理论。达尔文的工作在宗教界引起了不小的轰动，因为他的工作指出，人类是在数百万年的时间里进化而来的，不一定是上帝特殊创造的产物。

除了科学对先前被珍视的观念的颠覆之外，这些科学进步还有其他后果，包括**"实证主义"（positivism）的兴起。实证主义认为，任何理性的结论都必须能够通过科学验证，或者通过数学量化来证明。换句话说，实证主义教导说，真理只能通过科学和数学来认识(没错)。**

另一方面，**如果一个真理不能以这些方式得到验证，那么它就不能被认为是真正的真理。**听着，在这个视频中会有很多令人费解的现实需要探索，所以如果你需要更多帮助，你可以查看我的美国大学预修课程欧洲历史复习资料包，里面有很多关于这些问题的练习，会帮助你在课堂上得A，并在五月份的考试中得5分。描述中有链接。

不管怎样，你可能已经明白，为什么这种发展让很多人激动不已。在欧洲，大多数人是不同教派的基督徒，他们的整个宗教是基于上帝的神圣启示，而不是科学计算。实证主义说，你从内部发现关于世界的真理——比如这里有一株植物，把它放在显微镜下；这里有一个电子，用数学计算它。基督教教导说，世界最真实的真理来自世界之外，也就是说来自《圣经》中所启示的上帝。

所以想一想：基督教的核心教义是耶稣基督的死亡和复活，通过他的血，上帝的子民得到救赎和宽恕。这是一种信仰条款，而不是科学探索或数学探究。比如想一想：即使一位科学家拥有真正的基督之血，并把这血放在显微镜的载玻片上，这位科学家在这血液中也看不到任何救赎或宽恕。他只会看到血液。就是这样。救赎和宽恕是被信仰的，而不是科学证明的。因此，这种新兴的"实证主义"哲学运动，对启示宗教构成了威胁。

在19世纪后期，对这种思想的信奉产生了重大后果，即道德价值观方面的新相对主义。你看，由于"实证主义"抹杀了存在"适用于各地所有人的总体真理(这里的"真理"不是指科学，而是指"信仰")"这

一观念，这意味着所有真理都是相对的。对你来说是真理的东西，对我来说可能不是真理，因为我们从不同的角度评估那个真理，而且在我们之外没有标准能告诉我们谁是对的。

所以在这种思维方式下，没有真理(信仰)是客观的，而是相对的。就像那个盲人摸象的老故事一样。每个盲人摸到大象的不同部位，因此对大象的样子得出了不同的结论。摸到大象腿的盲人说大象像一棵树；摸到大象鼻子的盲人说大象像一条蛇。所以你看，基督教说我们能知道大象的真实本质，因为上帝告诉我们大象是什么样的。但"实证主义"以及它所产生的"相对主义"说，没有人能确切知道我们摸到的是大象的哪个部位，所以大象本质的真理对每个人来说都是相对的。

希望你能感受到这两个极端之间的紧张关系。一方面，科学的进步在真正认识世界方面取得了重大进展，但另一方面，科学越进步，事情就变得越不确定。这种日益增长的紧张关系的总称为"现代主义"（modernism）。

所以让我们首先谈谈"现代主义"在哲学上的表现，特别是这些哲学家强调的不是世界的"理性本质"，而是世界的"非理性本质"。这被称为——并不奇怪——"非理性主义"（irrationalism），它对启蒙运动的结论提出了重大挑战。

你看，启蒙哲学专注于三段论推理——比如如果A，那么B，所以C——轻而易举。但"非理性主义"打破了这一点，而是专注于人性的"非理性冲动"。他们坚持认为，人类的生活和决策, 不能用理性假设来解释(心理学本身就是复杂的, 不太能像物理学那样来研究)，而必须专注于被称为"精神"(心理学)的更虚幻的人类本能。

"非理性主义"的代表人物是弗里德里希·尼采（Friedrich Nietzsche）。**他认为，理性在人类生活中实际上只起很小的作用，大多数人是由他们的"激情和基本本能"所支配的。**我的意思是，人类喜欢认为自己是理性的生物，在做决定之前会权衡因果关系，但尼采出现了，他说：“你们都太疯狂了。”尼采认为，我们喜欢认为自己是理性的，但我们实际上是由情感和激情所支配的。

而且我们陷入这种糟糕状态的原因, 主要是基督教。在他看来，现代人类的巨大罪恶, 在于他们被传承下来的基督教道德伦理所奴役，这种道德伦理在大量的伦理义务之下, 扼杀了创造力。所以尼采宣称, 上帝实际上已经死亡，这个时代的欧洲人杀死了上帝，这为人类的解放创造了可能性。

沿着同样的思路，法国哲学家亨利·柏格森（Henri Bergson）认为，科学对于获得关于世界的实用知识是有益的。就像知道由于重力的作用，你不能直接跳出窗外还期望不受伤，这是有用的。类似地，知道细菌会导致疾病是有用的，知道什么样的化学物质可以治愈那些疾病, 也是有用的。柏格森认为，对于这些问题，科学非常伟大。

但然后他认为，当试图分析和描述真实世界的本质时，科学就失效了。柏格森认为，现实只能通过直觉来体验，而不能通过科学分析来认识。所以这样，**这些哲学教导说，社会的进步不是主要通过理性的科学假设来实现的，而是通过斗争和冲突来实现的(统治者的决策行为, 既有理性的成分, 又有感性的成分)。**

由于西格蒙德·弗洛伊德（Sigmund Freud），**这种对"非理性主义"的强调, 也被应用到了"心理学"的新领域。**他把这些思想应用到人类个性的内在世界。他认为，人类的行为不是由个人的理性选择所支配和决定的，而是由个人的"潜意识"所支配和决定的，而潜意识是由童年的经历塑造的。同样，我们喜欢认为我们在生活中做出的是理性的决定，但弗洛伊德会说不是——人类的决定, 在很大

程度上是所有那些被压抑的童年创伤的产物，而这些创伤, 正努力回到我们的意识层面。是这些在影响我们做决定，而不是我们纯粹的思考部分。

弗洛伊德开发了一种方法，用于追溯从"意识层面"到"潜意识层面"的这些联系，这种方法被称为"精神分析"（psychoanalysis）。尽管他的许多观点后来被证明是错误的，但他的进步为心理学领域奠定了基础。

最后，这些关于生活的"非理性本质"的新发展, 也被应用到了自然科学中。还记得在第四单元中，根据牛顿物理学（Newtonian physics），物理世界可以通过理性探索, 客观地被认识。比如，扔下一个苹果，它会落到地上，我们可以用一个方程式来预测它下落的速度。再比如，行星围绕太阳做椭圆运动，我们可以模拟出这些行星的确切运动轨迹。

然后在19世纪后期和20世纪早期，科学家们出现了，他们完全打破了那种可预测、整洁、理性的认识世界的方式。他们说：“哦，不，只要深入到宇宙的这些不变定律之下，你就会发现一切都是混乱的(量子力学)。”

这样的一位科学家是物理学家马克斯·普朗克（Max Planck）。在普朗克出现之前，关于原子和原子结构的主流理论是，它们是表现可预测的坚硬物质微粒。不要忽略我们正在谈论的是原子——就像我们所知道的现实的基本组成部分。根据主流理论，现实是可预测的，并且可以被可预测地描述。

但普朗克发现，原子辐射热量, 不是以连续的流动形式，而是以被称为量子（quanta）的不稳定的"能量包"形式。你和我一样，其实不需要确切理解那意味着什么。你需要从这里面明白的是，普朗克的"量子力学"表明，**原子的行为是非理性的，不是沿着严格预先确定的过程。换句话说，原子层面的世界实际上是混乱和不可预测的。**

重点是，在普朗克的工作之后，牛顿的宇宙再也不能充分描述现实了，这是一个令人不安的想法。

好的，点击这里继续复习美国大学预修课程欧洲历史第七单元。如果你有兴趣，点击这里获取我所有视频的填空式笔记指南，这将帮助你在课堂上得A，并在五月份的考试中得5分。我们下次再见。我走了。

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3. pure

All right, late in the 18th century and early 19th century, developments in science on the European continent are going to mess Europeans' crap up. They’re not going to know which way is up, which way is down, or which way is sideways. So I reckon we ought to talk about it. So if you’re ready to get them brain cows milked with a healthy dose of irrationality, let’s get to it.

Now in the last video, we talked about Charles Darwin and his new theory of evolution and natural selection. And Darwin’s work caused no small stir in the religious world, since his work pointed out that humans have evolved over millions of years and were not necessarily the objects of a special creation of God.

Now to add to all the scientific overturning of previously held darlings, these advances in science had other consequences as well, including the rise of positivism. This was the idea that any rational conclusion must be able to be scientifically verified or provable through mathematical quantification. In other words, positivism taught that truth can only be known through science and math.

On the flip side, if a truth could not be verified in those ways, then it could not be considered truly true. And look, there's gonna be a lot of mind-bending realities to explore in this video, so if you need more help, then you can check out my AP Euro review pack with just lots more practice on these issues, and will help you get an A in your class and a five on your exam in May. Link in description.

Anyway, you can probably already see why this development got a lot of people hot. In Europe, where the majority of people were Christians of various stripes, their entire religion was based not on scientific calculations but on divine revelation from God. Positivism says that you discover what is true about the world from the inside—like here's a plant, put it under a microscope; here's an electron, math it out. Christianity teaches that the truest truths of the world come from outside the world, which is to say from God as revealed in the Bible.

So think about it: the central doctrine of Christianity is the death and resurrection of Jesus Christ, and by his blood God's people are atoned for and forgiven. And that is an article of belief, not scientific exploration or mathematical inquiry. Like think about it: even if a scientist possessed a real drop of Christ's blood and that scientist put that blood on a slide under a microscope, that scientist would not see any atonement or forgiveness in that blood. He would just see blood. Like that's what it is. Atonement and forgiveness are believed, not scientifically proven. Thus, this emerging philosophical movement of positivism was a threat to revealed religion.

Later in the 19th century, a commitment to this kind of thought had a significant consequence, namely a new relativism in moral values. You see, since positivism obliterated the idea that there was one overarching truth that applied to everyone everywhere, that meant that all truth was relative. What's true for you may not be true for me, because we evaluate that truth from different perspectives, and there's no standard outside of us that can tell us which one of us is right.

So under this way of thinking, no truth is objective but rather relative. It's like that old story of the blind men trying to describe the elephant. Each man felt a different part of the elephant and thus came to different conclusions about what an elephant is like. The blind man holding the elephant's leg said the elephant was like a tree; the man holding the elephant's trunk said an elephant was like a snake. And so you see, Christianity would say we can know the true nature of an elephant because God tells us what the elephant is like. But positivism and the relativism it engendered said no one can really know for sure which part of the elephant we're holding, so the truth of the elephant's essence is relative for each person.

So hopefully you can feel the tension between these two poles. Like on the one hand, the advances in science are creating significant strides in knowing the world truly, but on the other, the further science advances, the more uncertain things become. The overarching name that was given to this growing tension was modernism.

So let’ s first talk about how modernism was expressed in philosophy, and particularly these philosophers are going to emphasize not the rational nature of the world but the irrational nature of the world. This is known as — not surprisingly — irrationalism, and it challenged the conclusions of the Enlightenment significantly.

You see, Enlightenment philosophy focused on syllogistic reasoning — like if A then B, therefore C — easy peasy lemon squeezy. But irrationalism broke from this and instead focused on the irrational impulses of human nature. They insisted that human life and decisions could not be explained by rational postulates but rather had to focus on that more ethereal human instinct called the spirit.

The poster boy for irrationalism was Friedrich Nietzsche. He argued that reason actually plays a very small role in human life, that most people are governed instead by their passions and base instincts. I mean, humans like to think of themselves as rational creatures weighing cause and consequence before making decisions, but Nietzsche came along and was like "Y’ all so crazy though." We like to think of ourselves as rational, Nietzsche argued, but we are really governed by emotions and passions.

And each of thought we got into the sorry state mainly because of Christianity. By his reckoning, the great evil of modern humanity was how enslaved they were to the Christian moral ethic that had been handed down to them, which stifled creativity under a mountain of ethical obligation. So Nietzsche claims that God was in fact dead, and that the Europeans of this age had killed him, and that created the possibility of the liberation of humanity.

Along these same lines, French philosopher Henri Bergson argued that science is good for attaining practical knowledge of the world. Like it’ s useful to know that because of the force of gravity you can’ t just jump out of a window and expect not to be hurt. Like that, all things being equal, is useful. Now it’ s useful to know that germs cause disease, and it’ s useful to know what kind of chemicals can cure those diseases. For those kinds of questions, Bergson argued, science is great.

But then he argued that science breaks down when trying to analyze and describe the essence of true reality. Reality, Bergson argued, could only be experienced intuitively, not analyzed scientifically. So in this way, such philosophies taught societal progress was achieved not mainly by rational scientific postulates but through struggle and conflict.

Now this emphasis on irrationalism was also applied to the new field of psychology thanks to Sigmund Freud, who applied these ideas to the internal world of the human personality. He argued that human behavior was governed and determined not by the rational choice of the individual but rather by the subconscious of the person, which was shaped by the

experiences of childhood. Again, we like to think we make our own rational decisions in our lives, but Freud would say no — human decisions are largely the product of all those childhood traumas that you have repressed and are struggling to make it back into your conscious awareness. That's what's making your decisions, not your pristine thinky-thinky part.

Freud developed a method for tracing these links from the conscious to the subconscious called psychoanalysis. And though many of his ideas were later proven wrong, his advances laid the groundwork for the field of psychology.

And finally, these new developments in the irrational nature of life were applied to the natural sciences. Now remember from unit 4 that according to Newtonian physics, the physical world was objectively knowable through rational engagement. Oh look, drop an apple and it falls to the floor, and we can predict the rate of its falling with an equation. Oh look, planets move in ellipses around the sun, and we can model the exact paths of those planets.

Then scientists came along in the late 19th century and early 20th century to completely ruin that predictable, tidy, rational way of knowing the world. They said, "Oh no, just go one click below all of these immutable laws of the universe and you'll see that everything is chaos."

One such scientist was physicist Max Planck. Before Planck came along, the prevailing theory of atoms and atomic structure was that they were hard bits of matter that behaved predictably. And don't miss that we're talking about atoms — like the very building blocks of reality as we know it. According to the prevailing theory, reality is predictable and can be described predictably.

But Planck discovered that atoms radiated heat not in constant flows but in erratic packets called quanta. And you, like me, do not really need to understand exactly what that means. The thing you need to take away from that is that Planck's quantum mechanics show that atoms behave irrationally, not along rigidly predetermined processes. In other words, the world at the atomic level was actually chaotic and unpredictable.

The point is, after Planck's work, the Newtonian universe was no longer able to adequately describe reality, and that was an unsettling thought.

Okay, click here to keep reviewing for unit 7 of AP European History. And if you're in the mood, click here to get my follow-along fill-in-the-blank note guides for all my videos that will help you get an A in your class and a five on your exam in May. And I'll catch you on the flip-flop. I'm out.