

6.2 Europe' s INDUSTRIAL REVOLUTION

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1. 释义

Now look, I am no horticulturalist 园艺学家. I am but a humble 谦逊的 history teacher, but **even I** know that 但即使是我也知道 trees do not grow (v.) indoors. So what is this massive 巨大的 tree doing /in the middle of Great Britain' s Crystal Palace 水晶宫 in 1851? Well, that' s the question you' re asking them, baby. I got the answer. So if you' re ready to get them brain cows milked Industrial Revolution 工业革命 style, then let' s get to it.

Welcome to *a new unit* and *a new time period* in AP Euro, namely 即 ; 也就是 unit 6 in the time period 1815 to 1914. If you want note guides 笔记指南 to follow along with 跟随 ; 与... 一致 this video, then get to click your finger out and check the link in the description 描述.

So we' re talking about the Industrial Revolution. I reckon 认为 ; 估计 we ought to 应该 begin with a definition 定义. The Industrial Revolution indicates (v.)表明 a fundamental 根本的 change /in the way goods were made for sale — **from** *goods 后定说明 made by hand* **to** *goods 后定说明 made by machine*. Now to be clear, this revolution was about a lot **more than** whether a shirt got made (v.) by hand or a machine, but that' s where it started. And this revolution is eventually 最终 going to change (v.) social, political, and economic structures 结构 throughout the whole world. So yeah, it' s kind of a big deal 重要的事情.

We' ll get to all those changes in later videos, but here /we need to figure out 弄清楚 why the Industrial Revolution began (v.) in Great Britain. And I' ve got seven reasons for it.

First, the Agricultural Revolution 农业革命, which we' ve talked about in previous videos, led to 导致 an increase (n.) in the food supply 供应. And though 虽然 , 尽管 this happened (v.) *in general* 通常 , 一般来说 throughout 遍及 , 到处 ; 自始至终 , 贯穿整个时期 Europe, in Great Britain /主 the people 谓 **spent** less money **on** food /and thus had more expendable 可牺牲的 ; 可消耗的 ; 可毁灭的 income 可支配收入 left over 剩余 /to buy *manufactured goods* 制成品.

Example 1. title
expendable

→ expend 花费 ; 消费 ; 耗费

Second, Great Britain had an abundant 丰富的 supply of capital 资本. Many entrepreneurs 企业家 had grown (v.) wealthy 变得富有 **on the back of** 在...的基础上;因为, 基于 the cottage industry 家庭手工业, and therefore these folks had plenty of scratch ((用指甲) 挠, 轻抓. 俚语, 钱) **to invest (v.) in** a new way of manufacturing goods. In fact, 主 a majority of 大多数 the first factory owners 系 were those who had been successful in running (v.) the cottage industry and the putting-out system 外放制. Additionally 此外, Britain had a well-designed 设计良好的 central bank 中央银行 which could **loan (v.)** 贷款, 借出 **capital to** entrepreneurs who didn' t already have it.

Third, and **related to** 与.....有关 number two, Britain had an abundance of entrepreneurship 企业家精神. Because England had rejected 拒绝 absolutism 专制主义 in the last period, their Parliament 议会 was able **to create** a favorable 有利的 environment **for** economic innovation 创新. That meant /the Industrial Revolution in Britain was largely 主要地 driven by 由...推动 private investors 私人投资者 rather than 而不是 the government.

Fourth, Britain had favorable 有利的; 良好的 government policies 政策. Many business-minded 有商业头脑的 folks felt (v.) the freedom to pursue (v.) 追求 new opportunities /when the time was right /because Parliament **passed (v.) laws** favorable to entrepreneurship. Due to 由于 reforms 改革 made in 1832, the House of Commons 下议院 had more power in the Parliament, and that' s the house 后定说明 that represented (v.) the interest 利益 of most of the folks in the working industry.

One particularly 特别地 significant 重要的 act 法案 was the repeal 废除 of the Corn Laws 谷物法, which **levied (v.)** 征收 (罚款、税款等) **steep (a.)** 陡峭的; (价格, 需求) 难以接受的, 过高的, 高额的 **tariffs** 关税 on imported 进口的 grain 谷物. With these gone, cheap grain could be imported from elsewhere, and that led to 导致 more people **leaving the farms** and **looking for work** in the city — mainly in factories. This repeal was only the beginning of a larger movement in Parliament to enact (v.) 制定, 通过, 颁布 (法令) free trade agreements 自由贸易协定. And in doing so, manufacturing 制造业 became even more important /because 主 exporting 出口 manufactured (a.) goods 谓 became even cheaper.

Fifth, Britain was rich 富含 in mineral resources 矿产资源, especially coal 煤 and iron 铁. You put both of those ingredients 原料 in a furnace 熔炉, and baby, you got the backbone 支柱 of the Industrial Revolution. Now Great Britain had these two minerals in abundance 大量地 beneath 在.....下方; 在.....表面之下 its soil 土壤, and because of the relatively 相对地 small size of the island /in addition to 除...之外 **the increasing amounts** of new roads and canals 运河 that **were being built**, coal and iron ore 铁矿石 could be transported 运输 throughout the country at great speed 快速地.

Sixth, Britain had **at its fingertips** (a.n.) 容易接近的; 延长到指尖的 (如外套或面纱) ;近在咫尺; 随时可用 an abundance of markets /in which to sell their goods. Remember that the British had spent (v.) the last couple of centuries building a massive empire 帝国, and that meant that /there were ready markets 现成的市场 all over the world /to purchase 购买 their manufactured goods. Because what' s the use of **imperializing (v.)** 帝国主义化 **the whole**

dang (俚语, 该死的) *world* /if you can' t subsequently 随后 sell them *prodigious (a.)* (范围, 规模, 程度) 巨大的, 庞大的 *amounts of* manufactured crap?

因为如果你不能卖给他们大量的人造垃圾, 那么把整个该死的世界帝国化又有什么用呢?

And finally, seventh, Britain was favorable for industrialization 工业化 /because there existed significant 重大的 incentives 激励措施 for inventors 发明家. The Industrial Revolution would have gotten nowhere 毫无进展 /if it wasn' t for the new technology invented (v.) to drive 推动 it. Institutions 机构 like *the British Royal Society* 社团, 协会 *of the Arts* 英国皇家艺术协会 **awarded (v.)授予 prizes for** innovations 创新 in technology and agriculture, and the government also **awarded (v.) prizes** like this. So there was incentive (n.)激励, 刺激 to produce new technologies.

And you should probably know *a few of* the most significant inventions /that **gave rise to** 导致; 引发 the Industrial Revolution. There was *the spinning (a.)* 纺纱的 *jenny* 珍妮纺纱机, invented by James Hargreaves in 1764, which **made** the production 生产 of manufactured textiles 纺织品 **exponentially (ad.)以指数方式 faster and cheaper**. There was *the steam engine* 蒸汽机, invented by James Watt in 1769, which used (v.) coal and steam **to turn (v.) turbines** 涡轮机 which could then power (v.)驱动 machines. And both of these inventions were crucial 至关重要的 to the rise of the factory system 工厂制度.

Britain' s industrial economic dominance 主导地位, being all these reasons put together , meant that Britain both began (v.) and dominated (v.) the first part of the Industrial Revolution. In order to put their dominance on display 展示, they held an international celebration 庆典 of their greatness 伟大; 巨大 in 1851 called *the Great Exhibition* 万国工业博览会. It was kind of like a world' s fair (集市, 展览会) 世界博览会, and 主 at the center of this exhibition 系 was a massive structure 建筑 后定说明 **built (v.) of steel and glass** called the Crystal Palace /that was almost **as large as** three city blocks 城市街区 /and **put** Britain' s industrial capacity 工业生产能力 **on full display** 充分展示 for all to see.

And inside the Crystal Palace /there were exhibits 展品 from all over the British Empire. And that is how you get a giant tree 后定说明 growing indoors. It was meant to show that 这是为了表明这一点 /the British had completely mastered (v.)精通, 掌握 nature with their industrial money.

So as industrialization **spread to** the European continent 欧洲大陆, various 各种各样的 factors 因素 determined 决定 how quickly it would take root 扎根. And let' s consider those factors.

First, in France — not one **to take** British dominance in any arena 竞技场, 领域 **lightly** (轻松地; 容易地; 不费力地)掉以轻心 — France wanted *a piece of* that juicy (a.)多汁的, 有吸引力的 industrial pie. But it wasn' t /until after about 1850 that industrialization moved to France, and then it was slow to adapt 适应. 主 One of the main reasons 系 was France' s relative 相对的 lack of coal and iron deposits 矿床.

Before his ousting (n.v.)罢黜, 推翻; 驱逐 in 1815, Napoleon **had laid (v.) the foundations for** 为...奠定基础 French industrialization, but he was busy **living (v.) his best life** exiled 流放

on an island in the Atlantic Ocean, so he never got to see the fruit of his work 成果. One of his major achievements 成就 was construction 建造 of the Quentin Canal 坎佩尔运河, which was a major waterway 航道 that **connected** (v.) Paris **with** the *iron and coal fields* of the north. Additionally, the French government also sponsored (v.) 资助 railroad construction, which was the key to *the transportation 运输 of those minerals* and *the transportation of manufactured goods*.

By the 1830s, British *weaving (a.) 编, 织 technology* 纺织技术 had been adopted 采用 in France, and that **not only** established 建立 the cotton industry 棉花产业 **but also** revived 复兴 the flagging (a.) 下垂的; 衰弱的, 衰退的 French silk industry 丝绸产业 as well. And the slower pace 速度 of industrialization in France **meant that** 主 the massive social upheavals 剧变; (地壳) 隆起 that occurred in Britain 系 were more tempered 缓和的. We'll talk about those upheavals in another video.

But as industrialization spread (v.) further into southern and eastern Europe, those regions were slower to adapt. And there were several reasons for them.

First was that /many of those regions lacked (v.) the mineral deposits necessary for industry. For example, Portugal, Spain, southern Italy, and Greece lacked (v.) large deposits of coal and iron. If you ain't got no coal and iron during the Industrial Revolution...

Example 2. title

If you ain't got no coal and iron...

这里 If you ain't got no coal and iron 这句中, ain't 不已经是否定了么? 为什么还要有个 no? 如果直接说成 If you ain't got coal and iron 可以么?

是的, 你观察得非常准确!

在英文中, "ain't" 本身就包含了 "不是" 或 "没有" 的否定意思 (是 "am not", "is not", "are not", "has not", "have not" 的非正式缩写)。所以, "If you ain't got no coal and iron" 这种说法在语法上确实是双重否定。

为什么会出现这种情况? 这主要是口语、非正式英语、以及某些地区方言 (特别是美国南方方言和非洲裔美国人白话英语 AAVE) 的特征。在这些语境中:

- **强调否定**: 这里的"双重否定"并非为了表达"肯定"的意思, 而是为了加强或强调"否定"。说 "I ain't got no money" 比 "I don't have any money" 听起来更强烈地表达 "我一分钱都没有"。
- **口语习惯**: 它是特定社群或场合中约定俗成的口语习惯, 而非严格的语法规则。
- **历史原因**: 英语历史上, "双重否定"在某些时期是普遍存在的, 尽管后来在标准英语中被规范为非语法错误。

如果直接说成 "If you ain't got coal and iron" 可以吗?

从语法上讲, "If you ain't got coal and iron" 是更符合标准英语的表达, 因为它避免了双重否定。

"If you ain't got coal and iron" = "如果你没有煤和铁" (标准语法)

"If you ain't got no coal and iron" = "如果你没有煤和铁" (非标准双重否定, 强调否定)

The second factor was the persistence (n.) 持续存在 of old economic arrangements 安排, which is to say /the landed (a.) 拥有大量土地的; 包括大量土地的 nobility 土地贵族 and the peasants 农民 who worked their land, which was difficult to dislodge (v.) (把某人) 逐出, 赶

出，驱逐出。If any change was going to happen, this system had to be overturned 推翻。But the landed elite 土地精英 had little incentive (n.)激励，刺激 to support industrialization /when that meant 主 many of the people working their land 谓 were just up and moving to the cities for manufacturing 制造，制造业 work.

Example 3. 案例
dislodge

(v.)

1. ~ sth (from sth) : to force or knock sth out of its position (把某物) 强行去除，取出，移动

•The wind dislodged one or two tiles from the roof. 大风从屋顶上刮下了一两片瓦来。

2. ~ sb (from sth) : to force sb to leave a place, position or job (把某人) 逐出，赶出，驱逐出

•The rebels have so far failed to dislodge the President. 叛乱分子至今未能把总统赶下台。

→ 词根词缀：dis-除去 + -lodge来源于德语loge(小房间)

And these elites essentially 本质上 controlled (v.) the government in these areas, so there was no chance of state-sponsored 国家资助的 industrialization. Even though serfdom 农奴制, 农奴境遇；农奴身份 was abolished 废除 in Russia and the Habsburg Empire 哈布斯堡帝国, many people remained (v.) landless 无地的 and poor.

In those places that had not industrialized, they still practiced (v.) primitive 原始的 agriculture 农业. And in a few cases, the result was massive and deadly. For example, the Irish Potato Famine 爱尔兰大饥荒 in the 1840s and 1850s 系 was devastating 毁灭性的. The potato was the staple food 主食 of the Irish poor /and **made up** a big portion of 占...很大一部分 their diet 饮食. And when a blight 枯萎病；荒芜 struck (v.) their potato crops in the mid-1840s, it led to a widespread 广泛的 famine 饥荒 /in which millions of the Irish poor **died of** starvation 饥饿 /and millions more fled (v.) the country and **emigrated to** 移民到 the United States and other places.

So a nation' s ability to industrialize 谓 could have serious consequences 后果.

Okay, click here to keep reviewing for AP Euro unit six. If you need help getting an A in your class and a five on your exam in May, then click right here and grab my AP Euro review pack, which is going to make all your dreams come true. I' ll catch you on the flip-flop. I' m learned.

2. 中文释义

听着，我不是园艺学家。我只是个谦逊的历史老师，但即便如此，我也知道树木不会在室内生长。那么，1851年，这棵大树在英国水晶宫（Crystal Palace）的中央做什么呢？嗯，这就是你要问的问题，宝贝。我有答案。所以，如果你准备好像经历工业革命那样充实自己的知识，那我们开始吧。

欢迎来到美国大学预修课程欧洲历史的新单元和新时期，也就是1815年至1914年的第六单元。如果你想要这个视频的笔记指南，那就动下手指，查看描述中的链接。

我们正在谈论"工业革命" (Industrial Revolution)。我认为我们应该从定义开始。"工业革命"标志着商品生产销售方式的根本性变革——**从手工制造的商品, 转变为机器制造的商品**。需要明确的是, 这场革命不仅仅关乎一件衬衫是手工制作还是机器制造, 但这就是它的起点。而且**这场革命, 最终将改变全世界的社会、政治和经济结构**。所以, 是的, 这是件大事。

我们会在后续视频中探讨所有这些变化, 但在这里我们需要弄清楚**工业革命为何始于英国**。我认为**有七个原因**。

首先, 我们在之前视频中提到的**农业革命 (Agricultural Revolution)**使得粮食供应增加。虽然这在整个欧洲都有发生, 但在**英国, 人们在粮食上的花费减少了, 因此有更多的可支配收入来购买制成品**。

其次, 英国拥有丰富的资本。**许多企业家靠家庭手工业发了财, 因此这些人有足够的资金来投资新的商品制造方式**。事实上, 大多数第一批工厂主, 都是那些在经营"家庭手工业"和"外放制"生产系统中, 取得成功的人。此外, 英国**有一个设计完善的中央银行, 它可以向没有资金的企业家贷款**。

第三, 与第二点相关, **英国拥有丰富的创业精神**。因为英国在上一时期摒弃了专制主义, 其议会能够为经济创新创造有利环境。这意味着英国的工业革命在很大程度上是由私人投资者推动的, 而不是政府。

第四, 英国**有有利的政府政策**。许多有商业头脑的人在时机成熟时, 感受到了追求新机会的自由, 因为**议会通过了有利于创业的法律**。由于1832年的改革, **下议院 (House of Commons) 在议会中有了更多权力, 而下议院代表着大多数工业从业者的利益**。

一项特别重要的法案是废除《谷物法》 (Corn Laws), 该法对进口谷物征收高额关税。废除这些关税后, 廉价的谷物可以从其他地方进口, 这导致更多的人离开农场, 到城市寻找工作——主要是在**工厂里**。废除《谷物法》只是议会推动"自由贸易协"定的更大运动的开始。通过这样做, 制造业变得更加重要, 因为出口制成品变得更加便宜。

第五, **英国拥有丰富的矿产资源, 尤其是煤炭和铁矿石**。把这两种原料放进熔炉里, 宝贝, 你就有了**工业革命的支柱**。英国地下有丰富的这两种矿产资源, 而且由于这个岛屿相对较小, 再加上新修建的道路和运河越来越多(交通运输很方便. 要想富,先修路), 煤炭和铁矿石能够快速地在全国运输。

第六, **英国拥有大量可供销售商品的市场(殖民地众多, 日不落帝国)**。记住, 英国在过去几个世纪里建立了一个庞大的帝国, 这意味着在世界各地, 都有现成的市场来购买其制成品(英国的产品能卖到全世界, 而没有关税壁垒. 自己殖民地要什么关税?). 因为如果你不能向全世界销售大量的制成品, 那么将整个世界变成殖民地又有什么用呢?

最后, 第七点, **英国有利于工业化, 因为对发明家有重大激励措施**。如果没有为推动工业革命而发明的新技术, 工业革命将一事无成。像**英国皇家艺术学会 (British Royal Society of the Arts)**这样的机构, 会为技术和农业创新颁发奖项, 政府也会颁发类似的奖项。所以人们有动力去研发新技术。

你可能应该了解一些**引发"工业革命"的最重要的发明**。有詹姆斯·哈格里夫斯 (James Hargreaves) 在1764年发明的**珍妮纺纱机 (spinning jenny)**, 它使纺织品的生产速度成倍加快, 成本也更低。还有詹姆斯·瓦特 (James Watt) 在1769年发明的**蒸汽机 (steam engine)**, 它利用煤炭和蒸汽驱动涡轮机, 进而为机器提供动力。这两项发明对工厂制度的兴起至关重要。

英国在工业经济上的主导地位，**综合这些原因，意味着英国开启并主导了“工业革命”的第一阶段。**为了展示他们的主导地位，他们在1851年举办了一场国际盛会，即“大博览会”（Great Exhibition），展示他们的伟大之处。这有点像世界博览会，而这次展览的中心是一座由钢铁和玻璃建造的巨大建筑——水晶宫，它几乎有三个街区那么大，全面展示了英国的工业能力。

在水晶宫内部，有来自大英帝国各地的展品。这就是为什么会有一棵大树在室内生长。这意在表明英国人用他们的工业财富，完全征服了自然。

所以当“工业化”传播到欧洲大陆时，各种因素决定了它生根发芽的速度。让我们来考虑这些因素。

首先，**法国——不会轻易让英国在任何领域占据主导地位——法国也想分一杯工业革命的羹。但直到大约1850年，工业化才传到法国，而且适应过程很缓慢。主要原因之一是法国相对缺乏煤炭和铁矿石储备。**

在1815年被推翻之前，拿破仑为法国的工业化奠定了基础，但他忙着在大西洋的一个岛屿上享受流放生活，所以他从未看到自己工作的成果。他的一项主要成就是修建了昆廷运河（Quentin Canal），这是一条连接巴黎与北部煤炭和铁矿石产地的重要水道。此外，法国政府还赞助了铁路建设，这是运输这些矿产资源和制成品的关键。

到19世纪30年代，英国的纺织技术在法国被采用，这不仅建立了法国的棉花产业，也重振了衰落的法国丝绸产业。**法国工业化的缓慢步伐意味着，英国发生的大规模社会动荡，在法国得到了缓和。（如同现在的 人工智能AI 应用太快，会导致短时间内大量失业，造成社会动荡。把取代的时间拉长，就能减轻冲击，让人们能有时间来慢慢转行。）**我们会在另一个视频中谈论这些动荡。

但当工业化进一步传播到欧洲南部和东部时，这些地区适应得更慢。有几个原因。

首先，**这些地区中的许多地方缺乏工业所需的矿产储备。**例如，葡萄牙、西班牙、意大利南部和希腊，缺乏大量的煤炭和铁矿石。**如果你在工业革命期间没有煤炭和铁矿石……**

第二个因素是，旧经济安排的持续存在，也就是说，拥有土地的贵族，和在他们土地上劳作的农民，这种状况很难改变。如果要发生变革，这个体系必须被推翻（必须让农民流入工业体系中，才会给“工业化”的发展带来人力资源和推力）。但拥有土地的精英们几乎没有动力支持工业化，因为这意味着许多在他们土地上劳作的人会离开，前往城市从事制造业工作。

而且这些精英，基本上控制了这些地区的政府，所以几乎没有国家赞助“工业化”的可能性（不像英国那样，英国的下议院控制了权力，而下议院就是商人的代表，他们可以通过有利于商人工业化的国家政策）。尽管农奴制在俄罗斯和哈布斯堡帝国被废除，但许多人仍然没有土地且贫困。

在那些没有实现工业化的地方，他们仍然实行原始农业。在一些情况下，结果是巨大且致命的。例如，19世纪40年代和50年代的爱尔兰大饥荒（Irish Potato Famine）是毁灭性的。土豆是爱尔兰穷人的主食，在他们的饮食中占很大一部分。当19世纪40年代中期土豆作物遭受枯萎病袭击时，导致了一场广泛的饥荒，数百万爱尔兰穷人死于饥饿，还有数百万人逃离该国，移民到美国和其他地方。

所以一个国家的工业化能力，可能会产生严重的后果。

好的，[点击这里](#)继续复习美国大学预修课程欧洲历史第六单元。如果你需要帮助，想在课堂上得A，并在五月份的考试中得5分，那就[点击这里](#)获取我的美国大学预修课程欧洲历史复习资料包，它会让你实现所有梦想。我们下次再见。我讲完了。

3. pure

Now look, I am no horticulturalist. I am but a humble history teacher, but even I know that trees do not grow indoors. So what is this massive tree doing in the middle of Great Britain' s Crystal Palace in 1851? Well, that' s the question you' re asking them, baby. I got the answer. So if you' re ready to get them brain cows milked Industrial Revolution style, then let' s get to it.

Welcome to a new unit and a new time period in AP Euro, namely unit 6 in the time period 1815 to 1914. If you want note guides to follow along with this video, then get to click your finger out and check the link in the description.

So we' re talking about the Industrial Revolution. I reckon we ought to begin with a definition. The Industrial Revolution indicates a fundamental change in the way goods were made for sale — from goods made by hand to goods made by machine. Now to be clear, this revolution was about a lot more than whether a shirt got made by hand or a machine, but that' s where it started. And this revolution is eventually going to change social, political, and economic structures throughout the whole world. So yeah, it' s kind of a big deal.

We' ll get to all those changes in later videos, but here we need to figure out why the Industrial Revolution began in Great Britain. And I' ve got seven reasons for it.

First, the Agricultural Revolution, which we' ve talked about in previous videos, led to an increase in the food supply. And though this happened in general throughout Europe, in Great Britain the people spent less money on food and thus had more expendable income left over to buy manufactured goods.

Second, Great Britain had an abundant supply of capital. Many entrepreneurs had grown wealthy on the back of the cottage industry, and therefore these folks had plenty of scratch to invest in a new way of manufacturing goods. In fact, a majority of the first factory owners were those who had been successful in running the cottage industry and the putting-out system. Additionally, Britain had a well-designed central bank which could loan capital to entrepreneurs who didn' t already have it.

Third, and related to number two, Britain had an abundance of entrepreneurship. Because England had rejected absolutism in the last period, their Parliament was able to create a favorable environment for economic innovation. That meant the Industrial Revolution in Britain was largely driven by private investors rather than the government.

Fourth, Britain had favorable government policies. Many business-minded folks felt the freedom to pursue new opportunities when the time was right because Parliament passed laws favorable to entrepreneurship. Due to reforms made in 1832, the House of Commons had more power in the Parliament, and that's the house that represented the interest of most of the folks in the working industry.

One particularly significant act was the repeal of the Corn Laws, which levied steep tariffs on imported grain. With these gone, cheap grain could be imported from elsewhere, and that led to more people leaving the farms and looking for work in the city—mainly in factories. This repeal was only the beginning of a larger movement in Parliament to enact free trade agreements. And in doing so, manufacturing became even more important because exporting manufactured goods became even cheaper.

Fifth, Britain was rich in mineral resources, especially coal and iron. You put both of those ingredients in a furnace, and baby, you got the backbone of the Industrial Revolution. Now Great Britain had these two minerals in abundance beneath its soil, and because of the relatively small size of the island in addition to the increasing amounts of new roads and canals that were being built, coal and iron ore could be transported throughout the country at great speed.

Sixth, Britain had at its fingertips an abundance of markets in which to sell their goods. Remember that the British had spent the last couple of centuries building a massive empire, and that meant that there were ready markets all over the world to purchase their manufactured goods. Because what's the use of imperializing the whole dang world if you can't subsequently sell them prodigious amounts of manufactured crap?

And finally, seventh, Britain was favorable for industrialization because there existed significant incentives for inventors. The Industrial Revolution would have gotten nowhere if it wasn't for the new technology invented to drive it. Institutions like the British Royal Society of the Arts awarded prizes for innovations in technology and agriculture, and the government also awarded prizes like this. So there was incentive to produce new technologies.

And you should probably know a few of the most significant inventions that gave rise to the Industrial Revolution. There was the spinning jenny, invented by James Hargreaves in 1764, which made the production of manufactured textiles exponentially faster and cheaper. There was the steam engine, invented by James Watt in 1769, which used coal and steam to turn turbines which could then power machines. And both of these inventions were crucial to the rise of the factory system.

Britain's industrial economic dominance is all these reasons put together meant that Britain both began and dominated the first part of the Industrial Revolution. In order to put their dominance on display, they held an international celebration of their greatness in 1851 called the Great Exhibition. It was kind of like a world's fair, and at the center of this exhibition was a massive structure built of steel and glass called the Crystal Palace that was

almost as large as three city blocks and put Britain's industrial capacity on full display for all to see.

And inside the Crystal Palace there were exhibits from all over the British Empire. And that is how you get a giant tree growing indoors. It was meant to show that the British had completely mastered nature with their industrial money.

So as industrialization spread to the European continent, various factors determined how quickly it would take root. And let's consider those factors.

First, in France — not one to take British dominance in any arena lightly — France wanted a piece of that juicy industrial pie. But it wasn't until after about 1850 that industrialization moved to France, and then it was slow to adapt. One of the main reasons was France's relative lack of coal and iron deposits.

Before his ousting in 1815, Napoleon had laid the foundations for French industrialization, but he was busy living his best life exiled on an island in the Atlantic Ocean, so he never got to see the fruit of his work. One of his major achievements was construction of the Quentın Canal, which was a major waterway that connected Paris with the iron and coal fields of the north. Additionally, the French government also sponsored railroad construction, which was the key to the transportation of those minerals and the transportation of manufactured goods.

By the 1830s, British weaving technology had been adopted in France, and that not only established the cotton industry but also revived the flagging French silk industry as well. And the slower pace of industrialization in France meant that the massive social upheavals that occurred in Britain were more tempered. We'll talk about those upheavals in another video.

But as industrialization spread further into southern and eastern Europe, those regions were slower to adapt. And there were several reasons for them.

First was that many of those regions lacked the mineral deposits necessary for industry. For example, Portugal, Spain, southern Italy, and Greece lacked large deposits of coal and iron. If you ain't got no coal and iron during the Industrial Revolution...

The second factor was the persistence of old economic arrangements, which is to say the landed nobility and the peasants who worked their land, which was difficult to dislodge. If any change was going to happen, this system had to be overturned. But the landed elite had little incentive to support industrialization when that meant many of the people working their land were just up and moving to the cities for manufacturing work.

And these elites essentially controlled the government in these areas, so there was no chance of state-sponsored industrialization. Even though serfdom was abolished in Russia and the Habsburg Empire, many people remained landless and poor.

In those places that had not industrialized, they still practiced primitive agriculture. And in a few cases, the result was massive and deadly. For example, the Irish Potato Famine in the 1840s and 1850s was devastating. The potato was the staple food of the Irish poor and made up a big portion of their diet. And when a blight struck their potato crops in the mid-1840s, it led to a widespread famine in which millions of the Irish poor died of starvation and millions more fled the country and emigrated to the United States and other places.

So a nation's ability to industrialize could have serious consequences.

Okay, click [here](#) to keep reviewing for AP Euro unit six. If you need help getting an A in your class and a five on your exam in May, then click [right here](#) and grab my AP Euro review pack, which is going to make all your dreams come true. I'll catch you on the flip-flop. I'm learned.
