0054 Why Dying People Often Experience a Burst of Lucidity 为什么临终的人常常会突然清醒

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1. Why Dying People Often Experience a Burst of Lucidity 为什么临终的人常常会突然清醒

Around 1959 /humans discovered a method to restart the heart in people /who would have died, and we called this CPR 心肺复苏术. Now doctors can revive some people /up to 20 minutes or more /after their heart has stopped beating. Many brain cells remain (v.) somewhat intact (a.)完好无损；完整 /for hours to days postmortem (a.)死后的；死后发生的 — challenging (v.) our notions of a rigid boundary between life and death.

Example 1. 标题

CPR

心肺复苏术（cardiopulmonary resuscitation）
/ˌkɑːrdɪoʊˈpʌlməˌneri/ adj. 心肺的；与心肺有关的
/rɪˌsʌsɪˈteɪʃ(ə)n/ n. 苏醒，复活；复兴

大约在 1959 年，人类发现了一种方法可以让本来会死去的人重新启动心脏，我们称之为心肺复苏术. 现在，医生可以在心脏停止跳动 20 分钟或更长时间后使一些人苏醒。 许多脑细胞在死后数小时到数天都保持完好无损——这挑战了我

们关于生与死之间严格界限的观念。

Large surveys are documenting (v.) 记录，记载（详情） the seemingly inexplicable 费解的；无法解释的 periods of lucidity 明朗；清澈；清醒度 /that hospice 临终安养院 workers and grieving 感到悲痛的 families /often report (v.) witnessing 目击 in people with dementia (n.)痴呆 who are dying. As more resources are devoted 献身，致力；用于 to the study of death, it is becoming increasingly clear that /dying is not the simple dimming 变暗 of one's internal light of awareness /but rather an incredibly active process in the brain.

Example 2. 标题

大型调查, 记录了临终关怀工作人员和悲痛的家庭经常报告的 在临终的痴呆症患者身上目睹的看似无法解释的清醒时期。随着越来越多的资源投入到死亡研究中，人们越来越清楚，死亡并不是一个人内在意识之光的简单变暗，而是大脑中一个难以置信的活跃过程。

For decades 十年，十年期（尤指一个年代）, researchers, hospice caregivers 护理者；看护者 and stunned （因惊讶、震惊而）目瞪口呆的 family members /have watched with awe 敬畏；惊叹 /as people with Alzheimer's 阿尔茨海默病 or other forms of dementia 痴呆；精神错乱 /suddenly regain (v.) their memories and personalities 性格；个性；人格 just before death. To their family members /it might seem like **a second lease 租约，租契 on life**, but for many experienced 有经验的；熟练的 medical workers, it can be a sign /the end is near. … He says /these events "usually occur in the last few days of life."

Example 3. 标题

a (ˌnew) lease of ˈlife

(BrE) (NAmE also a (ˌnew) lease on ˈlife) the chance to live or last longer, or with a better quality of life 延年益寿；生活质量更好

a second lease on life / a new lease on life 新生、改变状况的机会.
Lease 这个词本意为「租约」，常见的一个习语是 a new lease on life, 指的是「给生命延续，重新让某件事再次成功，或者受欢迎」。

几十年来，研究人员、临终关怀护理人员和惊呆了的家人, 都怀着敬畏的心情看着阿尔茨海默氏症或其他形式的痴呆症患者, 在临死前突然恢复记忆和人格。对于他们的家人来说，这似乎是重获新生，但对于许多经验丰富的医务工作者来说，这可能是末日临近的迹象. 这些事件“通常发生在生命的最后几天。”

“what we found is /lucidity 明朗；清澈；清醒度 was more common /than it was the exception 例外，除外 in dementia patients. We've actually found that /**a variety（同一事物的）不同种类，多种式样 of** these episodes occurred (v.) months, even years, before the person died." Many experts including Kerr and Parnia /agree (v.) that /most of these episodes **are associated with** the approach of death. “It's almost like /they're preparing themselves to die” .

Example 4. 标题

“我们发现，在痴呆症患者中，神志清醒的情况比例外情况更为普遍. 我们实际上发现，很多此类事件都发生在患者死亡前几个月，甚至几年。” 包括克尔和帕尼亚在内的许多专家都认为，这些事件中的大多数都与死亡的临近有关。“这几乎就像他们在为自己的死亡做准备.”

The potential implications 可能的影响（或作用、结果）,含意；暗指 of these widespread 分布广的；普遍的；广泛的, temporary cognitive resurgences (n.) 复苏；复兴 /are profound 巨大的；深切的；深远的. “It suggests /there may be neural networks that are remaining, and/or pathways and neural function, that could help potentially 可能地，潜在地 restore (v.) cognitive abilities to individuals /we otherwise think are permanently impaired (a.) 受损的；损坏的；出毛病的,” Peterson says.

Example 5. 标题

这些广泛的、暂时的认知复苏的潜在影响是深远的。彼得森说：“这表明可能存在剩余的神经网络，和/或通路和神经功能，这可能有助于恢复我们认为永久受损的个体的认知能力。”

"Nevertheless, research into this phenomenon /is still in its early phases. “**We don’t actually know what’s going on** in the brain /during the dying process /that may [in some way] connect to these episodes（人生的）一段经历；（小说的）片段，插曲.”

Example 6. 标题

尽管如此，对这种现象的研究仍处于早期阶段。“我们实际上并不知道在死亡过程中大脑中发生了什么可能以某种方式与这些事件有关.”

In all of these investigations 调查，科学研究, the researchers found that /gamma-wave activity surged (v.) 汹涌；涌动;急剧上升；飞涨；激增 within the first few minutes of **cardiac 心脏的；心脏病的 arrest** (n.) 心跳停止 /and then ceased (v.)停止; 不再 (做某事). Gamma waves are **a frequency of brain wave** /typically associated with wakefulness, alertness 警戒；机敏 and memory recall 记起；回忆起；回想起.

Example 7. 标题

在所有这些调查中，研究人员发现伽马波活动在心脏骤停的最初几分钟内激增，然后停止。伽马波是一种脑电波频率，通常与清醒、警觉和记忆回忆有关。

The surge of gamma waves in dying subjects 主题；话题,（哲）主体 /was particularly intense (a.)很大的；十分强烈的 in a brain region /Borjigin **refers to as** the “posterior (a.)在后面的；在后部的 cortical 皮质的；[生物] 皮层的；外皮的 ‘hot zone,’” located near the back of the skull 颅骨；头（盖）骨. Some other researchers believe /this region may also **be essential (a.)必不可少的；极其重要**

的 to conscious 神志清醒的；有知觉的；有意识的 experience. The parts of the brain in this area /are related to visual, auditory (a.)听的；听觉的 and motion perception 知觉；感知 — a phenomenon 现象 /Borjigin believes is involved in the out-of-body experiences 灵魂出窍, 出体经验 /reported by people who come close to death and recover.
She adds that / 主 gamma-wave activation patterns 后定 **akin (a.)相似的；类似的 to** those observed (v.)注意到；观察到 in the comatose 不省人事的；昏迷的 people / 系 **are associated with** activities /后定 that include **the recognition of a familiar image** —such as a human face —in healthy people.

Example 8. 标题

濒死受试者的伽马波激增, 在 Borjigin 称为“后皮质‘热区’”的大脑区域特别强烈，该区域位于颅骨后部附近。其他一些研究人员认为，这个区域对于有意识的体验也可能是必不可少的。该区域的大脑部分, 与视觉、听觉和运动知觉有关——Borjigin 认为, 这种现象与接近死亡和康复的人所报告的灵魂出窍体验有关。她补充说，类似于在昏迷人群中观察到的伽马波激活模式, 与健康人群中包括识别熟悉图像（例如人脸）的活动有关。

In both the human and animal studies, the subjects’ brain /showed a spike 尖状物；尖头；尖刺;猛增；急升 in activity /after the sudden reduction of oxygen supply, Borjigin says. “It starts to activate (v.) 使活动；激活；使活化 this homeostatic 自我平衡的；原状稳定的 mechanism /to get oxygen back, either by breathing (v.) harder /or making your heart beat (v.) faster,” she adds.

Borjigin hypothesizes (v.)假设，假定 that / 主 much of the surge in more complex brain activity /observed in humans and animals 后定 undergoing cardiac arrest / 系 is also a result of the brain /attempting to reestablish 恢复，重建；复兴 homeostasis (n.)体内稳态，内环境稳定（身体对变化作出自我调整），or biological equilibrium (n.)平衡；均衡；均势, after detecting a lack of oxygen. She further speculates (v.)推测；猜测；推断 that /these **survival mechanisms** may be involved in other changes in cognition surrounding death. “I believe /dementia patients’ terminal 晚期的,末端的；末梢的 lucidity /may be **due (a.) 由**

于；因为 to these kinds of last-ditch (a.)作最后努力（或尝试）的；孤注一掷的 efforts of the brain" /to preserve (v.) 保护；维护 itself /as **physiological 生理的，生理机能的 systems** fail (v.), Borjigin says.

Example 9. 标题

homeostasis :

(BrE also hom·oeo-) (biology 生) the process by which the body reacts to changes in order to keep conditions inside the body, for example temperature, the same 体内稳态，内环境稳定（身体对变化作出自我调整）→ homeo-,一致的，同样的，stasis,静止。引申词义内环境稳定，即身体对外部变化作出的自我调整。

last-ditch

→ 即最后的战壕，引申词义"死战到底"。后词义贬义化。比较die-hard.

Borjigin 说，在人类和动物研究中，受试者的大脑在氧气供应突然减少后, 表现出活动高峰。 "它开始激活这种稳态机制，通过加大呼吸或加快心跳, 来恢复氧气，"她补充道。 Borjigin 假设，在经历心脏骤停的人类和动物身上, 观察到的更复杂的大脑活动激增，在很大程度上, 也是大脑在检测到缺氧后, 试图重建体内平衡或生物平衡的结果。她进一步推测，这些生存机制, 可能与死亡相关的其他认知变化有关。 Borjigin 说："我相信, 痴呆症患者的临终清醒, 可能是由于大脑的这些最后努力", 以在生理系统出现故障时保护自己。

Parnia believes /the dying brain loses (v.) the usual **suppression 镇压；压制；抑制 mechanisms** /that allow us **to focus on** individual tasks /during our day-to-day 每天的,日常工作的 lives. "When you die, your brain **is deprived (v.) 剥夺；使丧失；使不能享有 of** oxygen and nutrients 营养物, so it **shuts down**," Parnia says. "This shutting down process /takes away the brakes 刹车；制动器；车闸 …, and suddenly /what seems to be happening is: it gives you access to parts of your brain /that you normally can't access…. All your thoughts or your memories /or your interactions 互动，交流 with everyone else /come out."

But he stresses that / 主 the experiences of people undergoing cardiac arrest 系 are lucid (a.)（尤指生病期间或病愈后，糊涂状态中或过后）头脑清晰的，清醒的, not merely hallucinations 幻觉. “They’re not delusional (a.)妄想的,” Parnia **says of** 说到,谈及 the resuscitated 使苏醒；使恢复知觉 people he studied, and 主 what they’re experiencing 系 is “not dreams or hallucinations 幻觉.”

Example 10. 标题

> 帕尼亚认为，垂死的大脑失去了通常的抑制机制，使我们能够在日常生活中专注于个人任务。“当你死去时，你的大脑会被剥夺氧气和营养，因此它会关闭，”Parnia 说。“这个关闭过程取消了刹车……突然间似乎发生的事情是：它让你可以访问你通常无法访问的大脑部分……。你所有的想法、你的记忆或你与其他人的互动都会出来。”但他强调，经历心脏骤停的人的经历是清醒的，而不仅仅是幻觉。“他们不是妄想，”帕尼亚谈到他研究过的复苏的人时说，他们所经历的“不是梦或幻觉”。

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2. Why Dying People Often Experience a Burst of Lucidity

Around 1959 humans discovered a method to restart the heart in people who would have died, and we called this CPR. Now doctors can revive some people up to 20 minutes or more after their heart has stopped beating. Many brain cells remain somewhat intact for hours to days postmortem—challenging our notions of a rigid boundary between life and death.

Large surveys are documenting the seemingly inexplicable periods of lucidity that hospice workers and grieving families often report witnessing in people with dementia who are dying. As more resources are devoted to the study of death, it is becoming increasingly clear that dying is not the simple dimming of one’s internal light of awareness but rather an incredibly active process in the brain.

For decades, researchers, hospice caregivers and stunned family members have watched with awe as people with Alzheimer's or other forms of dementia suddenly regain their memories and personalities just before death. To their family members it might seem like a second lease on life, but for many experienced medical workers, it can be a sign the end is near. … He says these events "usually occur in the last few days of life."

"what we found is lucidity was more common than it was the exception in dementia patients. We've actually found that a variety of these episodes occurred months, even years, before the person died." Many experts including Kerr and Parnia agree that most of these episodes are associated with the approach of death. "It's almost like they're preparing themselves to die" .

The potential implications of these widespread, temporary cognitive resurgences are profound. "It suggests there may be neural networks that are remaining, and/or pathways and neural function, that could help potentially restore cognitive abilities to individuals we otherwise think are permanently impaired," Peterson says.

"Nevertheless, research into this phenomenon is still in its early phases. "We don't actually know what's going on in the brain during the dying process that may in some way connect to these episodes."

In all of these investigations, the researchers found that gamma-wave activity surged within the first few minutes of cardiac arrest and then ceased. Gamma waves are a frequency of brain wave typically associated with wakefulness, alertness and memory recall.

The surge of gamma waves in dying subjects was particularly intense in a brain region Borjigin refers to as the "posterior cortical 'hot zone,'" located near the back of the skull. Some other researchers believe this region may also be essential to conscious experience. The parts of the brain in this area are related to visual, auditory and motion perception—a phenomenon Borjigin believes is involved in the out-of-body experiences reported by people who come close to

death and recover. She adds that gamma-wave activation patterns akin to those observed in the comatose people are associated with activities that include the recognition of a familiar image—such as a human face—in healthy people.
In both the human and animal studies, the subjects' brain showed a spike in activity after the sudden reduction of oxygen supply, Borjigin says. "It starts to activate this homeostatic mechanism to get oxygen back, either by breathing harder or making your heart beat faster," she adds. Borjigin hypothesizes that much of the surge in more complex brain activity observed in humans and animals undergoing cardiac arrest is also a result of the brain attempting to reestablish homeostasis, or biological equilibrium, after detecting a lack of oxygen. She further speculates that these survival mechanisms may be involved in other changes in cognition surrounding death. "I believe dementia patients' terminal lucidity may be due to these kinds of last-ditch efforts of the brain" to preserve itself as physiological systems fail, Borjigin says.

Parnia believes the dying brain loses the usual suppression mechanisms that allow us to focus on individual tasks during our day-to-day lives. "When you die, your brain is deprived of oxygen and nutrients, so it shuts down," Parnia says. "This shutting down process takes away the brakes…, and suddenly what seems to be happening is: it gives you access to parts of your brain that you normally can't access…. All your thoughts or your memories or your interactions with everyone else come out." But he stresses that the experiences of people undergoing cardiac arrest are lucid, not merely hallucinations. "They're not delusional," Parnia says of the resuscitated people he studied, and what they're experiencing is "not dreams or hallucinations."