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# HOW TO FIX A BROKEN HEART



**GUY WINCH**



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## 2 When Hearts Break, Brains and Bodies Break Too 當心碎的時候，大腦和身體也會一起崩潰

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Heartbreak is a hijacker. The emotional anguish it causes invades our thoughts, captures our attention, seizes our focus, and dominates our awareness. Like a black hole that pulls everything toward it, all we see and do is now experienced in reference to our broken heart, viewed through the lens of our loss. The emotional pain is so inescapable and the tightness in our chest so real, it feels as though our heart is literally broken. This metaphor of a “broken heart,” combined with the fact that it was caused by a single loss, makes us perceive heartbreak as a discrete and specific injury—as if there is one simple thing wrong with us. But heartbreak is neither a simple injury nor a specific one—it is systemic and complex. Heartbreak impacts far more than our mind and emotions. It affects our body, our brain, our functioning, and our relationships and it does so in far-reaching and surprising ways.

Our oversimplified view of heartbreak is more consequential than we realize. Because we lack a clear understanding of what exactly gets “broken” (other than our metaphorical heart) we are likely to misunderstand, misinterpret, or downright ignore the many aspects of our mental and behavioral functioning that are influenced by our broken hearts. As a result, our recovery from heartbreak can take longer and it can be less complete. Further, we are likely to be less empathetic and compassionate toward our loved ones when it is their heart that gets broken. And of course, it also contributes to the unfortunate societal disenfranchisement of heartbreak.

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In order to heal as thoroughly and as rapidly as we can, we must first gain a more accurate appreciation of what heartbreak actually does to us. And the best place to start is at the literal top—our brain.

心碎是個強盜。它引起的情緒痛苦侵入我們的思想，擄獲我們的注意力，抓住我們的注意力，並支配著我們的意識。心碎就像一個將所有東西都拉向它的黑洞，我們可以透過我們所失去的來觀察我們現在所看到和所做的一切，都和我們的心碎有關。情感上的痛苦是真的不可避免的，而我們胸口的緊繃感是那麼的真實，感覺好像我們的心是真的破碎了。這種「心碎」的隱喻，再加上是由單一的失去所引起的，使我們將心碎視為一種獨立且特定的傷害—就好像我們的心碎只是一件簡單的事情。但心碎既不是簡單、也不是特定的傷害——它是系統性而且複雜的傷害。心碎的影響遠不止我們的思想和情感。它影響我們的身體、我們的大腦、我們的功能和我們的關係，它的影響是深遠而且令人意想不到的。

我們對心碎過於簡化的看法比我們認知到的還來得重要。因為我們對什麼真的「破碎了」（除了我們對心臟的比喻）缺乏清楚的認知，我們很可能會誤解、曲解或完全忽視我們的精神和行為功能的許多方面，這些方面都受到我們心碎的影響。因此，我們從心碎中恢復可能需要更長的時間，也可能無法完全恢復。此外，當我們所愛的人心碎時，我們可能會對他們缺乏同理心和同情心。當然，這也助長了心碎的權利不幸被社會剝奪的狀況。

為了盡快完全治癒，首先我們必須更準確地了解心碎對我們實際的影響。最好的起點便是從頂部——也就是我們的大腦開始。

A few years ago, Ethan Kross and his colleagues at the University of Michigan put out a call for people who had been through a recent and painful romantic breakup. One by one, these paid volunteers were placed in fMRI machines (scanners that reveal areas of the brain with increased blood flow, suggesting increased activity) and instructed to stare at a photograph of the person who broke their heart and relive the breakup in their mind as the scanner gathered images of their brain, one razor-thin slice at a time.

Rough as that might sound the volunteers' ordeal was not over yet. The researchers wanted to be able to compare what happens in our brain when we experience sharp emotional pain to what happens when we experience sharp physical pain. And so back into the fMRI machine the volunteers went. This time, a Neurosensory Analyzer (a machine that transfers heat to the skin of the forearm) was used to apply increasing levels of uncomfortable heat to the volunteers' forearm for seven-second intervals. At first the heat was set to arouse only mild discomfort. But it went up from there, peaking at pain levels subjects rated an eight on a ten-point scale, where ten was "unbearable."

When the scientists compared the two brain scans, what they saw was remarkable. The exact same areas of the brain became activated when subjects relived their heartbreak as when they experienced the highest degree of physical pain—the level that was only a couple of notches below "unbearable."

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To put these findings in context, think back to when you had a really bad headache, stomachache, or backache. Few of us would consider the discomfort such aches cause as being anywhere near "unbearable," yet we typically find them quite debilitating nonetheless. Most of us find it difficult to work efficiently, study productively, or complete certain tasks in such situations, and we often find it necessary to lie down or take over-the-counter medication in order to resume our normal activities.

幾年前，密西根大學的伊森·克羅斯和他的同事們聯繫那些最近經歷過分手痛苦的人。這些有償參加的受試者被一一被安排在功能性磁共振造影機器上（一種顯示大腦血流量增加區域的掃描器，顯示活動的增加），並被指示盯著讓他們心碎的人的照片，當掃描器收集他們大腦的圖像時，在腦海中重新經歷分手這件事，一次都會收集一張和剃刀一樣薄的圖像。

聽起來可能很殘忍，因為受試者的磨難還沒有結束。研究人員希望能夠比較當我們經歷劇烈的情緒痛苦時和經歷劇烈的身體疼痛時大腦中發生的情況。因此受試者們再次配置了功能性磁共振造影機器。這一次使用的神經感覺分析儀（一種將溫度傳遞到前臂皮膚的機器）每隔七秒鐘就會為受試者的前臂增加越來越不舒服的溫度。一開始設定的溫度只會引起輕微的不適。但它開始逐漸上升，在疼痛程度達到頂峰時，受試者在十分的疼痛量表上評了八分，其中十分是「無法忍受的」程度。

當科學家比較兩次腦部掃描時，他們看到驚人的結果。當受試者重新經歷心碎的時候，大腦中完全相同的區域開始受到刺激，這時候他們就像經歷了最高級數的身體疼痛——只有比「難以忍受的」程度低幾個級數而已。

把這些發現放到這個情況下，回想當你有非常嚴重的頭痛、胃痛或背痛的時候。我們當中很少有人認為如此的疼痛造成的不適是趨近於「無法忍受的」程度，然而我們通常會發現這些疼痛可以使人變得非常虛弱。在這種情況下，我們大多數人很難有效率地工作、高效地學習或完成某些任務，而我們經常發現有必要躺下休息或服用成藥才能繼續正常活動。

Now imagine trying to do your job, study, or complete your responsibilities if the pain you were experiencing was near “unbearable” levels. Imagine trying to think clearly or creatively, reason, problem-solve, attend to small details, operate heavy machinery, or even compose a lengthy e-mail. Further, consider that the subjects in these experiments were exposed to near “unbearable” pain for only a few seconds. A broken heart can cause sharp emotional pain that lasts for hours, days, weeks, even months.

The fMRI experiment was only one of dozens of similar studies, all of which demonstrated how heartbreak elicits reactions in our brains and bodies that cause substantial cognitive and functional impairments. In one study, the mere thought of being without a significant other was enough to temporarily lower participants’ IQ (their intelligence quotient) and significantly harm their performance on tasks involving logic and reasoning.

Now it is easier to understand why Kathy, the cancer survivor who had trouble getting over her six-month relationship with Rich, failed to register Rich’s rationale for breaking up as reasonable and began seeking alternative explanations. It is also clearer why Ben struggled to function at work after his dog Bover died.

Indeed, this is what makes having a broken heart so devastating. Not only are we in severe emotional anguish and not only are the effects of our anguish severely debilitating, but too often, both our pain and our *functional impairment* go unacknowledged and ignored. We would never expect someone to function normally at school or their job if they were experiencing near “unbearable” physical pain throughout the day. But Ben was given no consideration for his profound emotional suffering or for its debilitating impact on his functioning.

現在想像一下，如果你受到的疼痛接近「無法忍受」的程度，同時又要努力工作、學習或完成你的職責。想像你試著要清楚或有創意地思考、判斷、解決問題、關注小細節、操作重型機械，甚至是撰寫冗長的電子郵件。再來，細想這些實驗中的受試者僅在幾秒鐘內感受到幾乎「無法忍受」的疼痛。然而心碎所引起劇烈的情緒痛苦卻可以持續數小時、數天、數週甚至數個月。

功能性磁共振影實驗只是數十項類似研究中的一項，所有的研究都證明了心碎如何引起我們大腦和身體的反應，從而導致嚴重的認知和功能障礙。在一項研究中，僅僅想到自己失去一個重要的人就足以暫時降低參與者的智商（他們的智能商數），並嚴重損害他們在包含邏輯和判斷力的任務中的表現。

現在更容易理解為什麼癌症倖存者凱西不能忘記與雷奇維持六個月的感情，也無法認同雷奇分手的理由是合理的，而是開始尋求其他合理的解釋。同樣也可以更清楚理解為何班在他的狗巴弗去世後，很難回復工作的狀態。

的確，這就是讓心碎具有如此破壞性的原因。我們不僅處於嚴重的情緒痛苦中，痛苦的影響不僅使人嚴重衰弱，而且我們的痛苦和功能障礙常常無法得到認同並且被忽視了。如果一個人整天都在經歷幾乎「無法忍受」的身體疼痛，我們從來不會期望他們在學校或工作中正常表現。但是沒有人考慮到班強烈的情緒痛苦，或是這對他的功能所造成衰弱的影響。

Registering severe physical pain is only one of the ways our brain reacts when our heart is broken. There is another and it is much more insidious.

## **You' re Gonna Have to Face It You' re Addicted to Love**

One of the main reasons Kathy rejected Rich's explanation for why he broke up with her was that it came only two weeks after their weekend in New England. Kathy became convinced something must have happened that weekend to tilt the relationship off course (even though at the time she thought it had gone very well). She spent months combing through her memories of that weekend, repeatedly examining every photograph and selfie she had taken and every text she had sent and received during and after those three days. She was utterly obsessed.

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The question was: Why didn't she just accept Rich's explanation and move on? Surely it would have been less painful to do so than to go through anguish for months at a time. Why was she so compelled to go on this wild goose chase?

Reliving old memories and going through pictures is something many of us might do in the first hours, days, or even weeks following a breakup (or the loss of a beloved pet). However, our urge to do so usually declines over time and at some point ceases altogether. Kathy's did not, despite the fact that the exercise must have been extremely painful. After all, she was submerging herself in memories of a happy and romantic weekend for minutes and hours at a time, only to then return to the harsh reality of the breakup.

"I feel like a detective searching through a crime scene," Kathy explained in one of our rare sessions during this period. "I know the clues are there but I just can't put them together!"

嚴重身體疼痛的出現只是我們大腦在心碎時的反應方式之一。還有另一個比較潛藏的反應。

## **你必須去面對自己對愛情成癮的事實**

凱西抗拒雷奇與她分手的解釋的主要原因之一是因為他們去新英格蘭度假的週末的兩週後就分手了。凱西開始確信那個週末一定發生了一些事情，使這段關係偏離了軌道（儘管當時她認為事情進展得很順利）。她花了幾個月的時間梳理她對那個週末的記憶，反復檢查她拍攝的每一張照片和自拍照，以及她在這三天內和之後發送和接收的每一條訊息。她完全無法自拔了。

問題是：她為什麼不接受雷奇的解釋並重新振作就好？與一次經歷幾個月的痛苦相比，這樣做當然不會那麼痛苦。她為什麼這麼執意地要白費力氣呢？

在分手（或失去心愛的寵物）後的前幾個小時、前幾天甚至幾週內，我們很多人可能會重溫過去的記憶和瀏覽照片。然而，我們這樣做的慾望通常會隨著時間的推移而減少，並在某個時間完全停止。但凱西沒有，儘管這個行為非常痛苦。畢竟，她一次又一次地沉浸在快樂而浪漫的週末回憶中，然後又回到了分手的殘酷現實。

「我感覺自己就像一名偵探，正在搜尋犯罪現場，」凱西在這段時間裡我們為數不多的其中一次會面中解釋道，「我知道線索就在那裡，但我就是不能把它們拼湊在一起！」

Kathy might have felt like a detective but her metaphor was totally incorrect. She wasn't behaving like Sherlock Holmes—she was behaving like a drug addict.

Studies of the brain have revealed that romantic love involves the activation of both brain structures (such as the ventral tegmental area, the caudate nuclei, and the nucleus accumbens) and neurochemistry that are highly associated with addiction. Indeed, when our heart is broken by romantic love or infatuation, our brain responds very similarly to the brains of addicts going through withdrawal from cocaine or heroin. We become intensely focused on the person who broke our heart (the “drug”) and feel intense cravings for them that are extremely difficult to banish, ignore, or soothe. The lack of contact with the person (i.e., not getting our fix) makes us unable to focus, disturbs our sleep and appetite, causes anxiety, lethargy, irritability, crying spells, depression, and intense feelings of need (loneliness) that no one but our heartbreaker can ease—just like cocaine and heroin do.

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Kathy was experiencing powerful symptoms of “withdrawal” from Rich but she was not aware of it. Her cravings for him (and for the relationship) were so strong, she was getting her “fix” the way she could—in her mind. If Kathy couldn't have the real “heroin” of being with Rich, she could at least get the “methadone” of the memories of the time she shared with him.

凱西可能感覺自己像個偵探，但她的比喻完全不正確。她的行為不像夏洛克·福爾摩斯——她的行為像一個吸毒成癮的人。

大腦的研究顯示，浪漫的愛情涉及大腦結構（例如腹側被蓋區、尾狀核和伏隔核）和與成癮高度相關的神經化學兩者的刺激。事實上，當我們的心因為浪漫的愛情或熱戀而心碎時，我們大腦的反應與戒斷古柯鹼或海洛因的成癮者的大腦非常相似。我們變得非常關注於讓我們心碎的人（就像「毒品」），並對他們產生強烈的渴望，這種渴望很難消除、忽視或緩解。無法與讓自己心碎的人接觸（也就是無法吸毒一樣）使我們無法集中注意力，擾亂我們的睡眠和食慾，導致焦慮、嗜睡、煩躁、無故哭泣、抑鬱和強烈的需要感（孤獨感），只有讓我們心碎的人可以緩解這些症狀——就像古柯鹼和海洛因一樣。

凱西正在經歷對雷奇「戒斷」的強烈症狀，但她並沒有意識到這一點。她對他（以及這段關係）的渴望是如此強烈，以至於她正在以她能想到的方式獲得這個「毒」——在她的心裡。如果凱西不能得到和雷奇真的在一起的這個「海洛因」，她至少可以藉由重溫與他那段時間記憶的「美沙酮」來緩解對他的渴望。

Since Kathy was unaware of how her brain was driving her behavior, she made sense of her intense ruminating the only way she could, by convincing herself there was a mystery to be solved. But the real reason she kept revisiting that weekend was not because something had gone wrong but the opposite—because of how great the weekend had been. By replaying these happy moments as vividly as she could (albeit under the guise of a search for “clues”), she was giving herself “fixes,” small tastes of what she craved so badly—the feeling of being with Rich.

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This “fix-seeking” addict-like behavior is very common when our heart is broken and we can be quite sophisticated in the justifications we concoct to engage in contact with the person we crave (whether face-to-face, electronically, or in our mind). I once worked with a woman whose ex-boyfriend kept “remembering” stuff he had left at her apartment that he needed to pick up. He knew she did not have a doorman and would therefore have to meet him in person for each handoff. First he asked for a T-shirt he had left in her drawer. A few days later it was gym shorts. My patient drew the line when he asked to retrieve a chipped dessert dish he had forgotten in her kitchen cupboard.

Of course, many of us skip justifications altogether and simply indulge these powerful urges, unaware we are doing so in order to get our “fix” and keep our symptoms of withdrawal at bay. We might send dozens of texts, call to hear their voice on their outgoing message, “accidentally” include them on group e-mails, hang out where we hope to run into them, seek out their friends and family, or “mistakenly” dial them on our phones. But in the era of social media, the most common way people satisfy their craving for the person who broke their heart is to stalk them digitally.

由於凱西不知道她的大腦是如何驅使她的行為，她透過說服自己有一個待解的謎團，從而使她強烈反芻思考的行為合理化，這是她唯一能做的。但她不斷回到那個週末的真正原因並不是因為出了什麼問題，相反的——而是因為那個週末過得太美好了。透過盡可能真實地回放這些快樂的時刻（儘管是在尋找「線索」的幌子下），她藉由給自己這些「毒」來稍微滿足她非常渴望的——和雷奇在一起的感覺。

當我們心碎時，這種「尋求毒品」的上癮行為很常見，而且我們熟練於編造與我們渴望的人接觸的理由（無論是面對面的、電子的方式或我們心想的）。我曾經和一位女性一起工作，她的前男友一直「想起」他的東西遺留在她的公寓裡，而他必須去取回。他知道她家沒有守衛，因此每次交接都必須親自見面。第一次，他要拿一件留在她抽屜裡的T恤。幾天後是運動短褲。當他要求取回他忘在廚房櫥櫃裡缺一角的甜點盤子時，我的病人拒絕並跟他劃清了界線。

當然，我們很多人完全忽略正當的解釋，只沉迷於這些強烈的慾望，而沒有意識到我們這樣做是為了得到讓自己心碎的人的「毒」，並抑制戒斷的症狀。我們可能會發送幾十條訊息，打去聽聽他們外出的語音訊息，「不小心」將他們包含在群組的電子郵件中，在我們希望遇到他們的地方閒逛，尋找他們的朋友和家人，或者用我們的手機不小心「誤撥」給他們。但在社交媒體的時代，人們為了滿足自己對讓他們心碎的人的渴望，最常見的方式是透過網路追蹤他們的狀態。