KERNING

FROM MYSTERY TO MASTERY

Chuck Davis

This guide is an excerpt from my "Layout Mastery" course. What follows are merely a few basic examples and principles to help you better understand the importance of kerning and employ it correctly in your designs. I hope you'll find them helpful.

I'm also available for team training and design consultation. Please visit chuckdavis.com for more information.

Kerning: From Mystery to Mastery

Hailey is relatively new to graphic design. She's done a few projects for her family and friends. She knows her way around the applications and has taken some design courses. One day, she asks her instructor, who has been designing for 20 years, "How do I know how close or far to space the letters?" To which her instructor replies, "No one knows. Kerning is not something you can really put into words. It's just a sense... not a skill that can be taught."

Maybe you're new to graphic design and you've asked that same question. (Maybe you're an experienced designer and have asked that question.) First, I want to commend you for asking the question. It's a very logical one. Some experienced designers and instructors have never dared to ask this question. Probably because they were afraid they didn't fully understand the concept and therefore didn't have the answer.

Well, I'm here to tell you that there are tangible answers to your kerning questions and I'll reveal them to you. I've been designing everything from logos, packaging and signs, to websites my entire life and in 1999, I started Letterhead Fonts. I must confess I didn't always have a complete understanding of kerning, but now I can pass on to you what I've learned and explain it to you in simple terms. If the concept of kerning has been a mystery to you or you just want to deepen your understanding of this important design tool, read on.

What would you say is the primary job of a graphic designer?

Some might say it's to be creative and design something eye-catching. That's certainly part of it, but it's not really the *primary* job of a designer. A better answer is 'to communicate'. After all, one could design a very creative and eye-catching design and still fail to communicate anything. As designers, our job is to communicate our client's ideas and information to people. The faster you can achieve this, the better. Remember: Communicate first, design second. If you have that priority right, you'll increase the chances of creating successful designs.

Unfortunately, many designers are guilty of what I call the two "ants". They are being both ignorant and arrogant when they assume that people will read their message simply because it exists. Your design is competing with a myriad of other designs for the public's ever-shrinking attention span. Why should people look at your design? If it isn't easy to understand, they won't... and you can't blame them. You can only blame yourself. What's more, you failed your client. Harsh? Maybe, but being a designer is a big responsibility and one that requires harsh honesty. There is no room for ego. If we are so insecure that we refuse to admit our failures, we'll never learn. That may be why despite a design instructor's 20 years of experience, they don't understand the concept of kerning well enough to explain it to anyone.

To understand kerning, we need to first understand how people see designs that convey written messages. People don't read. They scan. No one's going to take the time to read anything they don't have to. People must be able to understand the message you're attempting to convey at a glance; be it a sign, a box of cereal or a commercial.

Proper spacing between letters is one of the key components for getting people to look at your design and read your message because it affects layout directly. Glance quickly at the two examples below and notice which one your eyes gravitate to first.

PL EA SE REA D T HIS
ME S SA GE

PLEASE READ THIS
MESSAGE

Now obviously the top example is an extreme exaggeration (I've seen some truly bad designs that come close though.), but it illustrates the importance of proper spacing between letters. When the spacing between letters is too wide and inconsistent, it divides the word. When the spacing between letters is too tight, it becomes difficult to distinguish the letters. Your brain simply gave up trying to make sense of the top design and your eyes went to the easier to read design below it. Try to look at them again. Notice how powerful this phenomenon truly is. Your eyes are pulled to the bottom design like a magnet.

As a result, the message the top design was attempting to convey isn't read at all. So it stands to reason: if you want people to read your message, **make it easy for them to do so**!

Now, allow me to give you some insight on how the fonts you use are kerned in the first place.

As font designers, we must kern each and every glyph. There are some automatic kerning functions in the software we use, but that feature isn't very useful for the professional font designer. It usually just creates more problems than it solves. So I personally don't use the automatic kern feature at all. Instead, I set a default value for all letters and see how close that gets me. After that, it's a matter of typing every (yes EVERY) possible letter combination, including punctuation, and adjusting the spacing so that when a word is typed, the eye can flow through it smoothly and quickly.

Words and sentences are then typed to test the kerning. The more letters included and the more elaborate those letters are, the more involved and complicated the kerning process will be. It's a time-consuming task that can often take as long or longer than it took to draw the actual characters (glyphs) in the font.

LHF Desire by Charles Borges De Oliveria contains over 700 glyphs
and required more than 450 hours just to kern.

Some fonts are not kerned well at all (see page 9), which unfortunately puts the entire burden of properly spacing the letters on you, the designer. If the letters in your design are kerned badly, you must take the fall. While your client and viewers may know the design is bad, they probably won't be able to tell you that the kerning is the culprit. Therefore, purchase your fonts from reputable designers who stand behind their work and have taken the time to kern them properly.

That said, even good fonts will require some manual kerning occasionally to account for your particular design. Some well-known fonts such as Copperplate, Arial, and Georgia to name a few, contain kerning flaws. So you always need to be ready and able to make the necessary adjustments.

However, a seriously bad font can cause you delays. If you're relying on your design skills for income, you can't afford delays. That free font you downloaded might require kerning adjustments every time you use it (and probably some other fixes as well). That's not to say that all free fonts are bad. There are some very good ones. Just be careful and if you purchase a font, make sure the creator offers support when you need it. Each and every font sold on Letterhead Fonts is backed by my personal Lifetime Guarantee. If something goes wrong with one of our fonts or we made a mistake, I'm here to fix it and make it right.

Nothing irritates me more than seeing a poorly spaced word in a design. It's a careless mistake that requires mere seconds to fix, but that seemingly insignificant mistake has the potential to completely destroy a layout or even change the meaning of a message.

Bad kerning slows the eye down. Really bad kerning can change the message entirely.

By now, you probably understand that kerning doesn't just mean moving the letters closer together. In a single word, you might move some letters closer together while moving others further apart. **The objective of kerning is to eliminate anything that might slow the eye down** and make it difficult to comprehend the message. Remember: We're all about making it as easy as possible for people to read and understand our message. We want the eye to flow effortlessly through our words. Spaces between words tell the eye to "pause here". That's what the purpose of a space is. The eye sees each space between letters as a stopping point. So naturally, a large space hinders its flow through the word. Our brains pause at the space thinking that we just read a word, yet the word created by the preceding letters makes no sense. So we keep going. All of this happens in a split second of course. This stop and go pattern is unpleasant and prevents people

from reading our message quickly and clearly. Wide spacing has its place in a design, but it must be used properly and consistently.

Wide inconsistent spacing turns "TAROCCCO" into "T-AROCCO" and "APPAREL" into "APP AREL. Poor kerning interrupts the flow of the eye and can turn one word into two. Which is read faster, one word or two?

The two examples above are simply bad mistakes. As a general rule, wide spacing makes something harder to read. Armed with this knowledge, we can use that fact to our advantage to create better designs.

JUNIPER HILLS
FINANCIAL SERVICES

This above example is a wise use of wide spacing because it helps define the priority of the elements in the design. If you look away from the screen for a moment and then glance back, you'll notice that your eyes are drawn to "Juniper Hills" first and then "Financial Services" second. Why? "Juniper Hills" is bolder. We achieved that by using a bolder weight font AND kerning the letters tighter. "Financial Services" is lighter. We achieved that by using a lighter weight font AND kerning the letters looser. "Financial Services" is a little more difficult to read, so the eye goes to "Juniper Hills" first. Good layout is all about contrast; playing light against dark, to create a well-defined priority of elements.

Extremely wide spacing helps to minimize secondary copy, helping to ensure that people read the most important idea first. This technique also lends itself to an air of sophistication, which is why you'll see it commonly used in the fashion and cosmetic industries. I could expand on this more, but we need to keep the topic centered on kerning. (If the concept of how kerning affects layout intrigues you, you'll probably enjoy my "Layout Mastery" course.) At this point, you may be asking yourself, "How will I know if my letters are spaced too widely?

How tight is too tight?" The answer is simple: <u>If the spacing between your letters interrupts the flow of the eye through the word, your kerning is either too wide or too tight</u>. Look at the word and be sensitive to where your eyes stop. When they do stop, ask yourself why.

Each letter must be kerned according to the letters that precede or follow it. Since every letter creates different shapes of negative space, the required space between each letter varies. This is why you can't merely space all the letters identically using your design application's auto-kern settings. Let's look at our "Juniper Hills" design again and break down each space between the letters to better understand the logic behind the decisions that were made.

JUNIPER HILLS

1   **JU**— Both letters feature curved bottoms. This means that the bottoms allow more negative space. To compensate for this, **J** and **U** were kerned closer together.

2   **UN**— The **U** features a curved bottom on the right side which allows for more negative space. To compensate for this, **U** was kerned closer to **N**. Notice that the space is a tiny bit wider than the space between **J** and **U**. This is because the left side of **N** does not have a curved bottom like **U** and does not need to be as close.

3   **NI**— Straight letters require more space between them in order for the eye to be able to distinguish them easily. If these letters were closer, it could be more difficult for the eye to separate the **I** from the **N**. Notice that this space is a bit wider than the space on the left side of the **N**.

4   **IP**— The left side of the **P** is exactly the same as an **I**. Therefore, the space between these two letters is exactly identical to the space between **N** and **I**.

5   **PE**— The curved right side of **P** (the "bowl") and the space under it allows for a lot of negative space. This requires moving the **P** and **E** extremely close together in order to keep the eye flowing through the word and not create a "pause gap".

6 **ER**— The **E** is nearly solid on the right side except for some open areas created by its three cross bars. It therefore stands to reason that the space between the right side of **E** and the left side of **R** would be nearly identical to the same space given to two straight letters (ie: **N** and **I**) but just a little narrower. With a font this bold though, it probably would have been fine to make the space the same as between **N** and **I**.

7 **Space**— Yes, even the space character gets kerned. In this case, because **R** is the last letter of the preceding word, the space between the two words is a little smaller than if a straight letter such as **H** had been the last letter. We want the eye to pause, but still connect the two words together.

8 **HI**— Straight letters require more space between them in order for the eye to be able to decipher them easily. This space should be identical to the **NI** and **IP** combination. If it isn't, it's wrong. (Who says kerning has no rules and can't be learned?)

9 **IL**— The left side of **L** is identical to an **I**, so this space should be exactly identical to the **HI** combination.

10 **LL**— The space above the crossbar allows for a lot of negative space. Therefore we kern these two letters very closely. Be careful though. That sliver of space is extremely critical for the eye to distinguish what these letters are.

11 **LS**— Again, the space above the crossbar of the **L**, coupled with the ample negative space created by the curves of the **S**, dictate that these two letters will be kerned the tightest. Almost touching in fact.

Wow! That's a lot to take in, (And a lot for me to explain, honestly.) but necessary because I want you to understand there are logical principles behind kerning. It isn't something that is done haphazardly. We employ well-defined standards to assist our eyes in making the correct adjustments. This is an important lesson, so take the time to read through this example again to better understand each of the combinations and the reasoning behind the given spaces.

Once you understand these principles, you can adjust to suit your needs. For example, let's say that you felt the overall kerning was too tight. Simply add an equal amount of space between each letter to retain the proportions and you would still be good. The same logic applies if you wanted to tighten the kerning. Just adjust the spaces in relation to each other. Finally, check to make sure that similar letter combinations are exactly the same. For example, the space between **N** and **I** should be the same as **H** and **I**.

Kerning is logical!

But what if you wanted to touch letters together? How would you know when to use that technique? It's still all about getting the eye to flow through the word. So our principle still stands: If the spacing between your letters interrupts the flow of the eye through the word, your kerning is either too wide or too tight.

Some fonts, in order to be readable, actually require that the letters be placed very close together or even touching. This is most common with casual or script fonts.

BIRTHDAY!

BIRTHDAY!

Which example is easier to read? Which one conveys the emotion of the message better?

Many times when a casual font contains letters that are not on the same baseline or different heights, it will be necessary to kern them tighter in order to retain the flow of the eye through the word. Spacing such a font too widely slows down reading and kills the emotion of the letters.

Another example of a font that should be kerned so that the letters touch is a script. Most scripts contain connection arms and yet all too often we see examples such as this:

Anniversary

There are "connection" arms for a reason.

This type of mistake is obviously careless and only adds to the visual pollution we must endure daily. Therefore, I'm going to be a little less judicious here. This is a very serious error and usually made by clients attempting to create their own designs. If you have made this mistake, there is hope for you because you're reading this. But your penance is to promise never to repeat it and to banish Brush Script from your computer. There are so many better crafted scripts to use.

Let's understand why separating the letters is wrong. Look at the example on the previous page again and notice the jerky stop and go movement of your eyes as they move from left to right through the word. This makes it very difficult to read, even to the point where you are arrogantly *daring* people to read it. A script is already more difficult to read than a common font with traditional Roman letters. This spacing only makes it harder.

These letters are meant to be connected together. Notice how much easier your eye flows through the word when the letters are connected together properly.

Anniversary

Speaking of fonts that should be banished from every designer's system...

Oakridge Place

This is the first font I ever created. "LHF Esoteric" was something I threw together on a goofy program called "FontMonger". In my defense, it did not even allow you to kern the letters. Spacing had to be accomplished using sidebearings only. I never sold this font, yet it serves as an embarrassing reminder of the importance of kerning. Aside from the poorly drawn letters themselves, the sidebearing spacing is truly awful.

All of the letters are too close. Touching serifs together is a good idea sometimes, but the **R I D** letters are far too close to be able to tell that's an **I**. **D** and **G** are so close together than it not only makes it harder to decipher the individual letters, but creates a blob of black that distracts the eye. The tiny sliver of space between **G** and **E** is not enough to help the eye distinguish them easily. In a failed attempt to create the effect of two letters sharing a serif, **L** and **A** were squashed together making it nearly impossible to read. Finally, the two remaining letters are floating away by themselves, thereby creating two separate words instead of one.

These mistakes are painfully obvious to me today and probably to you also. If you gain anything from my embarrassment, I hope it's two things: First, ego has no place in design. Your ego will prevent you from learning, so be honest with yourself and admit your mistakes. Second, there is logic to kerning. If the concept of kerning has alluded you, take heart. Unlike what some people might have led you to believe, it is a skill that can be learned. After all, I did. So don't be discouraged when you can't seem to be able to recognize when letters need to be closer or further apart. Be patient and give yourself some time. Your eyes need to undergo sensitivity training. Soon enough, you'll begin to be able to spot kerning issues in words easily. Until that day, here are two general rules of thumb to help you:

- Letters with parallel strokes next to each other usually require <u>more</u> space between them to help the eye distinguish what they are.

- Round, curved or angled letters next to each other usually require <u>less</u> space between them to eliminate pauses in the word.

Beware that some angled letters are difficult to distinguish when they are close together. **AW** is one example. In these cases, rule number 1 trumps rule number 2. To assist you further, I'm including an Uppercase Kerning Assist Chart in this guide. Feel free to print it out for reference. The following exercise may help you as well. In your design application, make five copies of the same word and place them near each other. Kern one copy with tight spacing and the second one even tighter. Kern the third with loose spacing and the fourth very loosely. Don't touch your original. Which one is the easiest to read? Which one allows your eye to flow through it easily? Which one has an awkward gap that slows your eye down?

Follow the principles I've laid out here and I promise that paying close attention to kerning will pay off soon. Just don't expect anyone to say, "That's the best kerning job I've ever seen!" That's because kerning is something people *aren't* supposed to notice if you did it right. Rather, they'll say "That's a great design!". And that's how you'll know you did a good job for yourself and your client.

Chuck Davis is the founder of Letterhead Fonts and is currently offering live courses and tutorials in Layout and Font Design through **chuckdavis.com**."LHF Esoteric" notwithstanding, he has a over 30 years experience in layout, lettering and design.

chuck@chuckdavis.com

DO...

- Eliminate awkward & inconsistent spaces in your words.

- Manually kern your letters.

- Kern curved and angled combinations slightly tighter to eliminate negative space and improve eye flow.

- Kern combinations with parallel strokes slightly looser to help define the letters.

- Be patient with yourself and allow time for your eyes to be trained to detect kerning inconsistencies.

DON'T...

- Kern letters so tightly that they are difficult to read or change the message.

- Create awkward spaces between letters which hinders eye flow.

- Separate letters that are intended to be connected together (such as a script).

- Rely on the application's auto-kern settings.

- Be angry or frustrated with yourself. Learning to kern efficiently takes time.

Uppercase Kerning Assist Chart

This guide may help you learn what letter combinations to watch for.
These suggestions will vary depending upon the font being used.

TIGHTER KERNING
These combinations will usually require less space between them.

OWO	CZ	WJ	RC	PC	VU
OTO	CX	WJ	RV	PV	VS
OAO	CV	WZ	KW	TW	VJ
OKO	CC	WX	KT	TY	VV
OYO	SW	WC	KY	TU	DW
OVO	ST	WV	KA	TA	DT
OXO	SY	WW	KS	TS	DU
OZO	SU	YW	KJ	TC	DC
OSO	SA	YY	KZ	TJ	DJ
OUO	SJ	YT	KX	TZ	DZ
OCO	SZ	YU	KC	TX	DX
OO	SX	YA	KV	TV	DV
DO	SC	YS	BW	TT	DY
RO	SV	YZ	BT	LW	FX
PO	SS	YX	BY	LT	FS
LO	AT	YC	BU	LY	FV
FO	AY	YV	BA	LU	FW
BO	AU	YY	BX	LA	FA
KO	AS	RW	BV	LS	FJ
OJ	AJ	RT	PW	LJ	XC
CW	AZ	RY	PT	LZ	XJ
CT	AX	RU	PY	LX	XV
CY	AC	RA	PA	LC	XW
CU	AA	RS	PS	LV	XZ
CA	WY	RJ	PJ	VW	XA
CS	WU	RZ	PZ	VT	XT
CJ	WS	RX	PX	VY	XX

LOOSER KERNING
These combinations will usually require more space between them.

HI	NP	EM
HN	ND	ED
HM	NF	EL
HH	NH	EF
HE	NK	ER
HR	NL	EP
HP	NB	EI
HD	NM	EB
HF	NN	EE
HK	ME	
HL	MR	
HB	MI	
IE	MP	
IR	MD	
IP	MF	
ID	MH	
IF	MH	
IH	MK	
IK	ML	
IL	MB	
IB	MN	
IN	MM	
IM	WA	
II	VA	
NE	LI	
NR	EH	
NI	EN	

For brevity purposes, pairs with **Q** or **G** are not depicted.
In most cases, you may kern them like **O** and **C** examples.

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