Even in the Edwardian Age, His Majesty’s Navy was the one service Englishmen cared about –

the army a neglected stepchild.

Everything the Navy did was front-page stuff
discussed, debated, photographed.

A new ship got all the glamor write-up of Brad Pitt in PEOPLE.

It was gushing, ooh-ahh stuff, prose of the deepest violet cast.

Let a new sort of warship slide down the ways, and reporters and editorial writers could have coated the sides with all the columns they wrote.

... not to mention “Dear sir” letters from retired admirals who claimed to know better – weeks on weeks of them.

If a battleship’s engines misfired on the honeymoon voyage, it was good for the weekly cartoon from Punch.

And a major launching often had a major poet handy to float the ship with an ode.

England’s secret weapon was John Arbuthnot Fisher, easily the greatest admiral from that island in a hundred years –

A short, stocky man with an almost Chinese face.
He was born in Ceylon in 1841, but there was no truth to the stories that he was the son of a Malayan princess. His yellowish color came from a very bad bout of dysentery and malaria – he was sick with it for years.

A true child of empire; his father worked for the governor-general of Ceylon and then went into coffee planting – and was so badly ruined that he became an inspector General of Police.

The Governor’s widow and the niece of Lord Nelson himself helped get him into the Navy.

The entrance exam wasn’t all that rigorous:

write out the Lord’s Prayer
jump over a chair naked
and have a glass of sherry

He saw action in China – and Egypt.

But it was his expertise in torpedoes that made the Admiralty wake up to his talents.

He designed guns and torpedoes and ammunition

He created a water-tube boiler that made it easier to build up steam on a warship and cost a lot less coal.

Most of all, he developed a fast-firing breech-loaded gun...

... one shell could be fired every seven seconds.

and he got rid of that old, old weapon, the wooden
Finally, he devised a new kind of ship. It was small and moved very fast.

It would screen the big warships

and it would finish off all those nasty, troublesome little French torpedo boats.

Or, to put a word on it, “destroy” them.

Fisher called them “destroyers,” and that’s what they’re called to this day.

In 1903, a torpedo could hit at a thousand yards – that’s a little over a half mile.

A warship has to be that close to the enemy ship to send it.

But by that time, Fisher had developed a system of rapid-firing guns and destroyers to make it just about impossible for any surface vessel to make a torpedo attack.

He never COULD figure out what to do about submarine torpedoes, which is why Fisher was one of the first to realize that the U-boat, with a lot of changes, could put the battleship out of business.

Bit by bit, Fisher rose – rear admiral – vice admiral, knight, and Commander in Chief of the North Atlantic and West Indies Station.

England hadn’t seen his like in years.
– when the French quarreled with England over Fashoda, Fisher proposed to steam off to the West Indies, finish off their Navy and come back with Captain Alfred Dreyfus.

Land him in France, and the French would be so busy fighting each other that they wouldn’t bother with making war on foreigners!

– when Germany began to build a navy, Fisher suggested a Pearl Harbor ... a pre-emptive strike:

sail in, without warning, in a time of peace, and wipe out their whole fleet!

“Copenhagen” them!

(The King thought he was completely nuts, but liked the idea, aside from that).

Jacky Fisher fizzed.

Volcanic of temper, full of himself, brimming over with ambition and drive and pep

By his bedside he always kept paper and pencil

because he’d wake at four and scribble all the ideas he’d had during the night.
He couldn’t take walk; he paced.
Because, he said – he couldn’t think and still have to look
where he might be about to put his foot.

So he had to be going back and forth across a floor that he
knew.

He meddled in everybody else’s affairs –

he planted spies in Navy wardrooms to report back on
how captains were handling their ships

He gossiped and carried grudges at the full gallop.

One man who thought he was a friend, Fisher
recommended be made governor of
someplace in the West Indies.

because, Fisher explained, they had a lot of
yellow fever there and he’d be a lot
less trouble dead.

Erupting in ideas, enthusiasms, passions, prejudices.

He couldn’t sign a letter “yours sincerely.”

It had to be “Yours till we part at the Pearly Gates”¹
or

“Yours till charcoal sprouts.”

or

¹ Adding, “You’ll get in! I shan’t!”
“Yours till a cinder.”

He couldn’t go to Church every Sunday.

He would go three times, for three sermons.

and sometimes four.

On quiet days, he would stalk down the halls with a sign around his neck:

“I HAVE NO WORK TO DO”

or

“BRING ME SOMETHING TO SIGN.”

In just a ten minute after dinner speech he was able to get the audience laughing – and cheering –

and insult the army –

and spill wine on the Secretary of State for War.

(port, actually – he swept the glass off the table when he waved his arm in a big dramatic sweep)

He was exactly the wrong person to send to the first world disarmament conference in 1899.

Disarming was the last thought in his mind.

“The humanizing of war? You might as well talk about
humanizing Hell! The essence of war is violence!
Moderation in war is imbecility!"

Not for him the slow motion of hunting or cricket.

He loved dancing – and if he couldn’t find a woman, he would
go waltzing with some other officer.

Don’t worry about getting a band to play –
Jacky would whistle or hum the tune himself.

A moving snowstorm of memos with italics and exclamation points

and big block-letters and Biblical quotes and historical facts
that just weren’t so.
He sounds overbearing – a fly off the handle type, almost American.

And, in fact, people he rubbed the wrong way thought he was crazy
and positively hated him.

They called him “the Malay” and “the Yellow Peril.”

His saving grace was a real talent for charming people.
He could be impertinent to kings, and they just laughed.

We have his word for it that he said something so nice to
the king of Spain that the King gave him a hug,
kissed him, pushed a chocolate into his mouth
and cried, “You darling!”
(When he went to Queen Alexandra’s 60th birthday party, he discovered that everybody else had a few prepared remarks.

He had to think fast; so he made something up.

“Have you seen that half-penny newspaper about your Majesty?” he said.

It said, “The Queen is sixty today! May she live till she looks it!”

The Queen was delighted and asked him for a copy.

When she reminded him a few weeks later, he’d completely forgotten his fairy-tale, but it didn’t slow him a bit,

“Sold out, Ma’am! Couldn’t get a copy!”

And this lie made her even happier than the first one.

He could give five newspapermen the same scoop, and make each of them think himself the only beneficiary.

And he would write them letters addressed to “Dear Friend” or “Beloved.”

A lot of captains and admirals and political swells hated him.

But common sailors feared and adored him both, because he got them better food and did away with the brute-punishments that the Navy was known for.

He cared for them, and they knew it.
Captains came from the aristocracy, but to Jacky Fisher, rank didn’t mean a thing.

He hated the class snobbery that wouldn’t let officers go down into the coal-hole

and treated the engineers like an inferior race because they got their hands dirty.

It’s the kind of love that made one M. P. name his child John, after Jacky Fisher.

What – you may ask – is so amazing about that?

Well, for one thing, she was a girl.

Quite a few women adored him, and he got a real reputation as a roue, boasting to the king that he had ravished every virgin in London.

(“Splendid, if true,” the King commented).  

It most likely was all talk. Fisher loved to flirt and charm, but he took his Bible very seriously, too, and he absolutely adored his wife Kitty. (But then, so did everybody – even people that couldn’t stand Jacky Fisher himself; George V, for instance). [And no, Kitty Fisher was NOT the Kitty Fisher of “Lucy Locket lost her pocket, / Kitty Fisher found it....” That Kitty Fisher was in the 18th century, and a well known prostitute who died from too many cosmetics).

For all the rumor and report, no lady ever admitted to doing anything more lurid than having a few whirls with him on the dance floor, and his letters – and he wrote them by the thousands, and they’ve been saved by the thousands – never suggest that he did anything particularly naughty. In fact, he wrote his wife all of his flirtations, in enthusiastic detail, knowing that they would make her laugh. And as he put it once, “What a man really likes is to be a saint with the reputation of being a bid of a devil.”

What women may have liked about him, in fact, was not his macho nature, but his natural sympathy. He was a strong believer in woman suffrage, and on reading of one case of spouse abuse, his response was to declare that the wife should have been allowed to shoot the husband and then be given a pension afterwards.
Nothing fazed Jacky Fisher.

The old admirals were “the Mandarins”
“the fossils.”

The higher he rose, the more eager to collect other people’s ideas he was.

He offered prizes and loving-cups for the best essays on cruising and battle formation.

Younger officers always knew he would listen to them, eagerly.

When he tried military maneuvers, they weren’t just war-games.
They were dry-runs...

how to blockade the French navy into Toulon, say

how to move past French torpedo boats, from Malta to Gibraltar

a night landing attacking Malta with 5000 men

And wherever the fleet went, it went at top speed

Everything had to be fast, fast, fast.

And they did their gunnery from twice as far away –

not at targets 2000 yards off, but 3000 – 4000 –
even six thousand yards

Ships installed telescopic sights

To him, it was a matter of life and death.

“Who is going to be hung if we don’t lick the French fleet?” he yelled at a reporter once.

He knew well enough: “I have the rope round my neck,” he told the First Sea Lord.

By the time he became First Sea Lord in 1904, Jacky Fisher was the architect of a whole new way of ruling the waves.

Jacky had ideas about everything, and that included the Navy.

“On the British Navy rests the British Empire. Nothing else is of any use without it, not even the army.... No soldier of ours can go anywhere unless a sailor carries him there on his back.”

(Winston Churchill couldn’t have said it better, but he said it just as well:

“All our long history built up century after century, all our great affairs in every part of the globe, all the means of livelihood and safety of our faithful, industrious, active population depended upon them. Open the sea-cocks and let them sink beneath the surface, ... and in a few minutes – half an hour at the most – the whole outlook of the world would be changed. The British Empire would dissolve like a dream; each isolated community struggling forward by itself, the central power of union broken; mighty provinces, whole empires in themselves, drifting hopelessly out of control, and falling prey to strangers;....”)³

³ Massie, Dreadnought, 788-89.
As First Sea Lord, he made the Imperial Fleet over.

It wasn’t just the basic accomplishments:

– more decent working conditions for the men
– bigger and better guns
– a system of choosing officers based on talent, not family
– speeding up the building of ships
– a new system of naval reserve
– inventing a battle cruiser and a new class of battleships

It’s the larger picture. He turned the fleet into one fit for a EUROPEAN war, not an imperial war.

In his own way, he was moved England closer to home, away from the Empire...

closing down the imperial shipyards at Trincomalee and Jamaica and Halifax

calling in 155 aging warships that had been used as the lifeline of empire...

some to serve in the Mediterranean

some to hold the English Channel

some to be mothballed
but just about none of them to returned to global roaming.

This wouldn’t be a bigger ship – not much – only 85 feet longer and 2 ½ feet wider; and it wouldn’t cost much more.

But it would be a heck of a lot faster and more powerful, with a stronger punch.

two or three times as powerful as anything the world had seen before.

Sailing ships used to fire broadsides.

Their cannons were on port and starboard.

Fine ... but while you’re firing, your ship’s side is a wall, exposed for the enemy to hit – like hitting the broad side of a barn.

What you need is guns on turrets that can fire while you are moving straight ahead – and are less of a target.

Ordinary battleships might have 4 twelve inch guns and a lot of guns of smaller calibre....

Nine-inchers, say.

The smaller the gun, the shorter its range.
Three or four thousand yards (two miles) was the furthest they could hit.

But twelve-inch guns ... you could heave a shell five miles, maybe six.

What about a battleship that was ALL twelve-inch guns?

Then your ship would only need to stock one calibre of ammunition.

Its spare parts would fit every gun, not just some of them.

Any ship with six-inch guns or nine-inch guns is outclassed.

You can pound it, and stay far enough away, that none of its shells can come close to you.

And best of all, with guns all the same calibre, you don’t fire this gun, that gun, the next gun.

You fire a salvo.

You fire all at the same time. That way you can tell your range almost at once, and start hitting for real.
Speed, now. Most battleships could do 18 knots, at their fastest.

But they just about never ran their fastest, because the ship’s engines couldn’t take it for long.

Even 14 knots was too fast for eight hours at a stretch.

You run full speed for four hours ... and your ship will have to pull into port for ten days of repairs to the brass bearings inside the pistons.

So as one expert put it, the whopping big ship was a “monster with short legs.”

But turbine engines didn’t have that kind of stress and wear.

They were new – in 1905, still very experimental.

You could do 17 knots without breaking into a sweat, for days on end.

And 21 knots, at your fastest.

Fisher: “Speed is armor. Hitting is the thing, not armor.”

All the same, the Dreadnought had armor in spades.

5000 tons of it.

That was 800 tons more than either of the biggest, strongest British warship up to that time.
And the armor was thickened especially below the water line.

Hit it with one torpedo – two, even, – and this ship could keep on going.

And if a torpedo did plunk it below the surface?

Fisher had figured that one out, too.

Battleships had protection: compartments, rooms, each watertight, and with doors that could seal them off, if water poured into the one next to it.

Most times the doors would be open for a crew to go from one room to the next.

What if a ship were rammed suddenly, with the doors ajar? Water would spread end to end and the ship would sink.

Fisher got rid of the watertight doors.

You couldn’t go from one room to the next. But neither could the water.

To get into them, you had to climb down a ladder from the main deck.

To communicate with the rest of the ship, you used a phone.

Fisher had great faith in his Dreadnaughts.

They were exactly the length of Westminster Abbey.
Anything that size, he argued, was bound to be all right.

The second great reformer of the Navy was a civilian – First Lord of the Admiralty Winston Spencer Churchill.

– himself as incandescent as Fisher, and with as much of a reputation for trickiness.

– and he and Fisher hit it off from the first.

“Fell desperately in love with Winston Churchill,” Fisher wrote after their first meeting at Biarritz in 1907

“You are the only man in the world I really love,” Churchill told him atg another time.

They so loved to go off and talk, high-speed, that King Edward called them “the chatterers.”

Nothing erotic at all. But they were, in a way, “sparks from the same fire”

romantics quick to weep or laugh or get angry all vigor, all in a hurry to get things done

---

4 In the words of Violet Asquith, the PM’s daughter – who disliked Fisher strongly.
endless founts of ideas
and men who gloried in a fight to the finish.

Once, one of the admirals protested that Churchill was ignoring the hallowed traditions of the Royal Navy.

Churchill: “And what are they? I shall tell you in three words. Rum, sodomy and the lash. Good morning, gentlemen.”

Under his command, super-dreadnoughts took their place alongside the Dreadnoughts –

5 of them, oil-fueled, and with heavier guns than any seen yet.

WARSPITE
QUEEN ELIZABETH
BARHAM
MALAYA

What made them terrific was those guns.

A naval cannon fired a heavy shell thousands of yards.

Only the heaviest shell could smash through the thick armor on an enemy vessel and burst the hull or inside turrets.

---

5 Massie, *Dreadnought*, 778.
Not even the dreadnought could stand up to one of those.

As Churchill explained, a fight between two battleships wasn’t like two men in heavy armor whacking each other with swords, and nobody getting hurt beyond the din

It was more “like a battle between two egg shells striking each other with hammers.”

You hit first – hit hardest and keep on hitting.⁶

But to get a heavier shell, you need a bigger bore of a barrel.

Fisher’s first big-gun ship could fire a shell twelve inches across weight: 850 pounds.

And ten battleships and six battle cruisers got those guns.

In 1909, Fisher had pushed the diameter an inch and a half wider.

Measly? But now the shell weighed in at 1,250 pounds.

⁶ Massie, *Dreadnought*, 783.
And 18 dreadnoughts were laid with 13 ½ inch guns.

Winston upped it to 15 inches, and a shell that came in just under a ton.

What’s more, you could fire it 35,000 yards. Twenty miles!⁷

Finally, these guns had something no guns could count on before: accuracy.

Accuracy wouldn’t seem so hard to get.
But shooting a cannon’s not like popping off a squirrel-gun.

You shoot in the air, and have to calculate where it’s going to come down.

Gunners on land could do that.

But ever tried doing it with a rolling wave under you, pitching the deck up, and to the side?

Ever tried doing it against a target that’s doing the same thing, and, to make it worse, is moving?

You think target practice against a stationary target, 2000 yards off, will get you ready to hit the bull’s eye 17 times as far?

How about once you throw in things target practice hasn’t got –

---

⁷ Massie, *Dreadnought*, 782-83.
the clouds of spray
the fog of heavy smoke

and with the target shooting back at YOU?

A gunner from a mile off can see where his shells are landing.

Too far? He can adjust his range.

But no gunner can see 20 miles away.

The whole fleet’s firing blindfolded!

The solution: Director Firing.

What you need is a tall conning tower on the foremast.

A gunmaster stands at the top.

He’s above the smoke and spray and noise.

From there, he can see the target, and where the shells hit.

He does the adjusting, and sends down orders by electrical signals to the men at the guns.

And when the guns fire, they all fire at the same time – one big salvo, done by pushing a single key.  

\[8\text{ Massie, } \textit{Dreadnought}, 786-87.\]
You could have a fast ship – if you cut down on the armor they carried.

A thinner eggshell, if you like.

Or you could have a shatterproof ship – if you loaded it down with armor plate.

But Churchill wanted better: He wanted faster, heavier ships.\(^9\)

The solution came in the fuel: oil burned hotter than coal, and could push a ship faster.

And with oil, you didn’t need coaling stations any more.

The coaling station could come to you – the tanker, that could give your ship a fill-up at sea, anywhere it was needed.

All those stokers, who’d exhausted themselves – in fact, the whole crew, exhausting itself – loading mountains of coal into their battleships – now could relax.

Oil pipes would gush the fuel-holds full.

And the coal-burning ship would have bunkers on bunkers of coal. As the bunkers nearest to the furnace emptied, stokers would have to shovel the coal from the farther bunkers into near ones.

\(^9\) Massie, *Dreadnought*, 783-84.
Coal was work – shoveling, hauling work – from the moment you loaded it on board to the moment the furnace consumed it.

That takes up manpower you could use better some other way.

Think of one hundred men, with only one job – to shovel coal from one steel chamber to the next!

Think of them doing it all day, all night – never going on deck to see the stars or feel the wind and spray of the waves!\(^\text{10}\)

Now oil would change all of it.

What did Churchill’s dreadnoughts have to do with empire?

Take the most obvious: the fuel they used.

England had so much coal, that “carrying coals to Newcastle” was a byword for doing something superfluous.

But oil – England didn’t have oil.

\(^\text{10}\) Massie, *Dreadnought*, 784.
It didn’t have colonies that had oil.

Without oil, this new navy would stop dead.

Experts were sent to the Persian Gulf to look for oil fields. The government bought a controlling interest in the Anglo-Persian Oil Company.

A British imperial presence in the Middle East hadn’t been needed before, east of Suez.

Now it couldn’t be done without.\textsuperscript{11}

A very different idea of Fisher’s was the battle-cruiser –

Very large, very fast, with heavy guns.

But it didn’t have the armor the Dreadnoughts did.

That’s what allowed it to be fast.

England had 10 before the war.

They were like the Light Cavalry of the Seas – very mobile, ready to charge in.

\textsuperscript{11} Massie, \textit{Dreadnought}, 785.
Their was the glamor. None of the plodding of the battleships.

A cruiser’s job is different from a battleship’s.

It does patrol duties.

It raids commerce.

It handles the blockade

It does the scouting.

It’s an admiral’s eyes, reporting how big the enemy fleet is and what it’s doing.

In Nelson’s day, that’s what frigates did –

The ship of the line (the three decks of guns and all) were too heavy, too lumbering, too slow, and much too valuable for work like that.

But when the battle comes, the frigate scoots away. It had lighter timbers, and that means it has to stay out of the line of battle.

When the big guns go off, its smaller cannon have all the use of pop-guns.

By the 1890s, armored cruisers were doing frigates’ job –

scouting and scooting
and above all, staying out of battleships’ way.

They were good for 21 knots.

Fisher upped it to 25 knots, then 26, then 28.

He gave the cruisers bigger guns – twelve inch guns, in place of the nine-inchers.

Their big failing was armor.

Dreadnought’s was almost a foot thick along her belt amidships.

A cruiser’s was just seven inches.

And when they were used against battleships, at Jutland in 1916, they were turned into scrap metal and caked the surface of the sea in corpses.\(^{12}\)

Fisher was right about one other innovation, but nobody believed him:

the submarine.

In the 1800s, a submarine still didn’t look like much more than a toy.

But what Fisher realized was that it turned a pretty useless weapon into a killer.

Torpedoes had been around for many years.

\(^{12}\) One thousand and twenty six sailors on the *Invincible* alone were drowned when the ship blew up there. Only five crewmen lived.
Surface ships could fire them – and if they hit a battleship below the water-line, could sink it.

The trouble came in delivering.

No torpedo could travel more than a thousand yards.

Any ship with torpedoes, a battleship could blow out of the water from more than a mile away, before it got close enough to lay a glove on it.

But put torpedoes on a submarine, and it COULD close in.

It took British admirals years before they listened to Fisher.

And even when they did, they dismissed the submarine out of hand.

It was the weapon of cowards!

It was unmanly! Unethical! Un-English!

At most, you could use them like mine-fields – as a weapon to defend harbors and hold a narrow neck of water, like the Straits of Dover or the Straits of Gibraltar.

But an offensive weapon? It was unthinkable.

Dreadnoughts may capture the imagination. But those big metal hulks did worse.
They held it hostage, incommunicado.

The world was changing, and in other ways, Empire had prepared the British very poorly for war in Europe.

Not just in its armies. That went without saying – just as its generals went without thinking.

But modern wars are tied to industrial power, and there, England had been lagging for half a century.

**Iron and steel**

Producing iron and steel was the mark of a serious national power. As of 1910, Britain produced 7.6 million metric tons of steel. But Germany made twice that much.

British steel was made the old way, too.

Its plants could have learned from Andrew Carnegie.

The idea of big-scale production –

continuous flow –

all were something they had missed out on.

So steel cost more to make, and you couldn’t make nearly as much of it as Germany or America could... nor steel that was as strong,
or could stand up under stress.

Of 59 steel firms, 29 of them made just 1000 to 2,500 tons of steel a week.

No U. S. Steels here.

The little family firms did things the same old way.

Many furnaces were 70 years old. ¹³

So the special kinds of steel, of high and consistent quality – the kinds you need for sophisticated technical purposes – England didn’t make. It imported them – from Germany.

Poor quality alloy steel would hold back the making of war planes for months.

It would hold back the making of tanks for years, because for every three castings of track links, one was a total loss and waste.

The only thing that would keep Britain in the game, when it came to shells and shell steel, was that it imported them from America during the war.

And what about the new industries, the ones created since 1870 – the second stage of the industrial revolution?

Again, modern wars can’t do without them.

Again, England was as behind as the wooden man o’war would be on the sea.

Light engineering, for instance – with semi-automatic lathes –
precision industries.

England had not worried about excelling in that.

If you wanted a mechanical toy or a clock, you could
buy it from Germany or a Waterbury watch from
Connecticut.

But in wartime, those same factories could re-tool almost overnight
into making finished shell-casing
and very accurate shell fuses. ¹⁴

If you go to war with Germany, you think you can import these
from them?

Where’s a modern, up to date machine-tool industry that can make the kind of
machines you need, to go into a new line of production?

Aircraft, say, or vehicles, or instruments, or shells?


And the latest machine tools came from Germany or America.

Again, the only thing that saved England when the war came on was buying from America and Sweden and Switzerland.

And even then, it never had as many as it needed.

From shells to engines to airplanes, many were sought and few were built. ¹⁵

Or how about ball bearings? You can’t make anything without ‘em, nearly.

For aircraft, for tanks, for internal combustion engines of every kind.

How many factories in Britain made them? One.

Where did the rest come from?

Wait, don’t tell me. Germany.

Or the magneto – the thing that provides ignition to those engines.

Anything motorized – a tank, a truck, a motorcycle, a plane... gotta have its magneto

But Britain didn’t make them. Only one firm turned them out, and not much more than a thousand a year.

Who did? Germany did.16

What about building engines for aircraft? England hadn’t the trained specialists to do it.

Her planes got by on French engines.

It took two years of war before the British designed one of their own.

And they were still scrambling to meet the need when the war ended.

But then, what plane would you put an engine like that into?

There WAS no British aircraft industry in 1914.17

Pressure gauges ...

Optical and scientific instruments – micrometers – measuring appliances — optical glass – glass bulbs – tubing for electric lamps – Chemical apparatus –

all of these, England had to go abroad to get, and mostly to Germany.18


As for the chemical industry, everyone knew that the Germans ranked #1.

Their chemical firms dominated the world.

Their scientists were absolutely cutting edge...

   drugs
   dyestuffs from coal tar

And when the war, those same scientists could use their advances in coal tar to turn out high explosives.

Whereas Britain didn’t even have enough of a chemical industry to dye its own cloth.

You wonder why it is that it’s the Germans who used poison gas first?

They were the first ones to invent it and produce it.

It took a year after its first appearance for Britain to make a mustard gas of its own.

... and English mustard, at that. 19

Oy! such a headache I’m getting, just thinking about it!

... but the only place England could get an aspirin was from the Germans!!!\textsuperscript{20}

Thank heavens for neutral countries in the war.

They could buy German chemical supplies and sell them to the British at a big mark-up.

\textsuperscript{20}Corelli Barnett, \textit{The Collapse of British Power}, 87.