

Patent Law

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Class 15 – Nonobviousness:
Life after *KSR*; objective indicia

Recap

Recap

- Nonobviousness: introduction
- *Graham*
- *KSR*

Today's agenda

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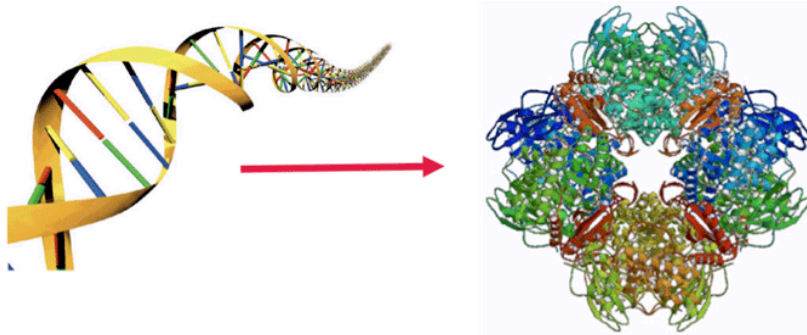
- Life after *KSR*
- Objective indicia of nonobviousness
- Analogous art
- Claim-chart exercise

Life after *KSR*

In re Kubin

→ Technology

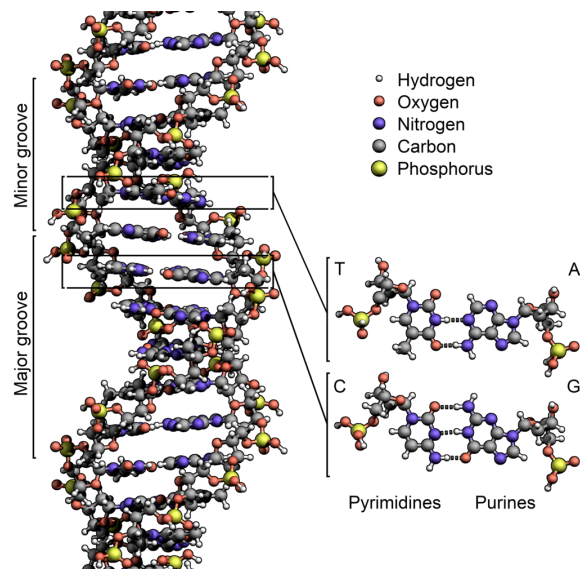
- Genes (DNA) encode proteins



In re Kubin

→ Technology

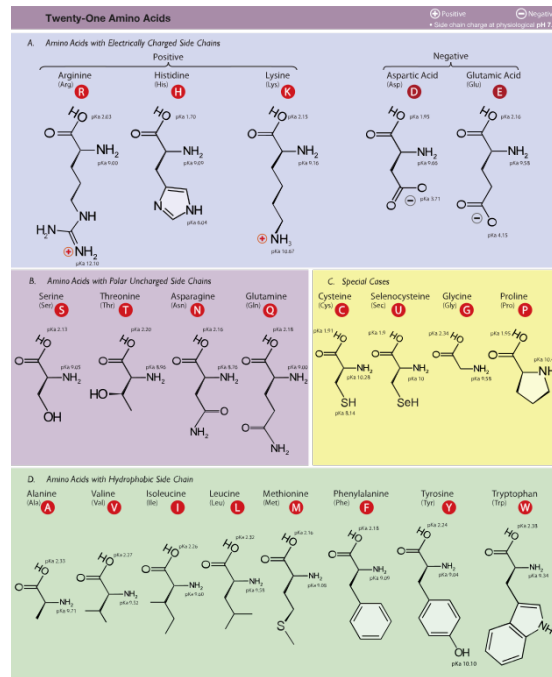
- DNA: string of nucleotides (guanine, adenine, thymine, or cytosine)



In re Kubin

→ Technology

- Protein: string of amino acids (21 in all)



In re Kubin

→ Technology

- Every triplet of nucleotides encodes a specific amino acid (or an instruction like "STOP")

TTT	Phe	TCT		TAT	Tyr	TGT	Cys
TTC		TCC	Ser	TAC		TGC	
TTA	Leu	TCA		TAA	Stop	TGA	Stop
TTG		TCG		TAG		TGG	Trp
CTT		CCT	Pro	CAT	His	CGT	
CTC	Leu	CCC		CAC		CGC	Arg
CTA		CCA		CAA	Gln	CGA	
CTG		CCG		CAG		CGG	
ATT		ACT	Thr	AAT	Asn	AGT	Ser
ATC	Ile	ACC		AAC		AGC	
ATA		ACA		AAA	Lys	AGA	Arg
ATG	Met	ACG		AAG		AGG	
GTT		GCT	Ala	GAT	Asp	GGT	
GTC		GCC		GAC		GGC	Gly
GTA	Val	GCA		GAA	Glu	GGA	
GTG		GCG		GAG		GGG	

In re Kubin

→ Technology

- So, DNA encodes protein (DNA → protein)
- Going from protein to DNA requires a little more reverse-engineering

In re Kubin

→ Patent

- Claim 73: "An isolated nucleic acid molecule comprising a polynucleotide encoding a polypeptide at least 80% identical to amino acids 22-221 of SEQ ID NO:2, wherein the polypeptide binds CD48."
- In other words, the claim covers a category of DNA molecules that encode a category of proteins (NAIL and similar)

In re Kubin

→ Prior art: Valiante patent

- Discloses p38 protein – same as NAIL protein
- Does not disclose DNA to make that protein

In re Kubin

→ Prior art: Valiante patent

- Does say “The DNA and protein sequences for the receptor p38 may be obtained by resort to conventional methodologies known to one of skill in the art”
- Discloses conventional five-step protocol for cloning DNA molecules encoding p38/NAIL

In re Kubin

→ Applying *KSR*

- Combination of familiar elements?
- Using known methods?
- To yield predictable results?

In re Kubin

→ Applying TSM test

- Teaching, suggestion, or motivation to combine?

In re Kubin

→ “Obvious to try”?

- Two classes of cases
- Varying all parameters or trying every possibility until something works
- Exploring a promising new approach, where the prior art offers only general guidance

In re Kubin

→ What happened to predictability?

In re Kubin

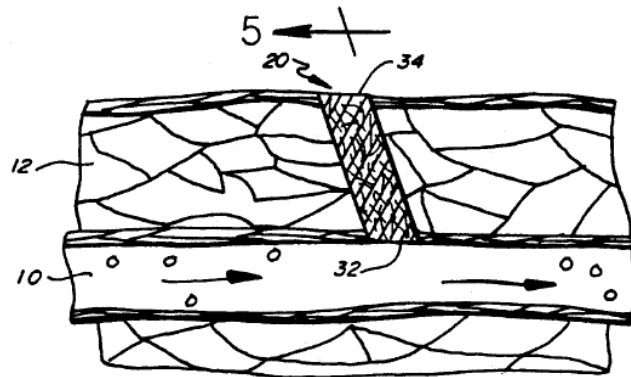
- What happened to predictability?
 - Court: in the context of biotech, this is super-predictable
 - It's too broad a brush to say a field is predictable or unpredictable

St. Jude Medical

- Another post-KSR case
- Tech
 - Prior art: different ways to close a puncture in a blood vessel after using a catheter
 - In-vessel catheter and solid plug (gelfoam stick)
 - But both can stick into the blood vessel and block blood flow

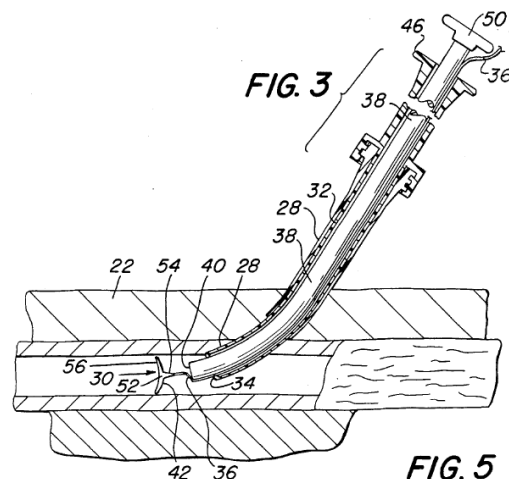
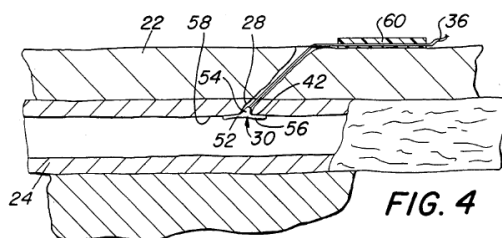
St. Jude Medical

→ Prior-art plug:



St. Jude Medical

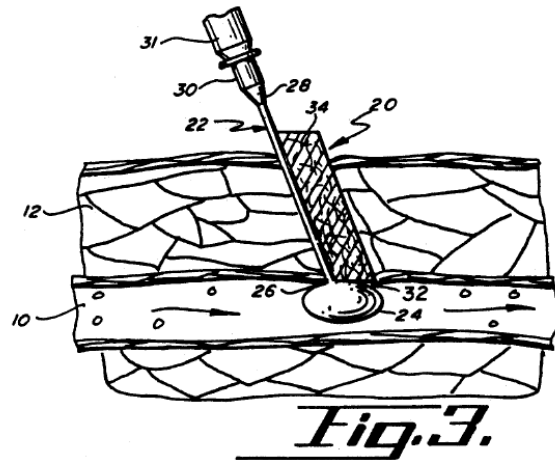
→ Prior-art insert:



St. Jude Medical

→ Invention:

- Combine balloon catheter (as a guide) and plug



St. Jude Medical

→ Applying KSR

- Combination of familiar elements?
- Using known methods?
- To yield predictable results?

After *KSR*

→ Does TSM test survive?

- Yes, in many cases
- But to far-more-limited effect
- More things count as teaching, suggestion, or motivation

After *KSR*

→ New teachings, suggestions, and motivations

- Predictability
- Exogenous technical (and legal) developments
- Routine experimentation

After *KSR*

→ Procedural changes

- Expert testimony may not be enough to create a genuine issue of fact
- Willingness to resolve questions on summary judgment

**Objective indicia
of nonobviousness**

Objective indicia of nonobviousness

- Objective indicia of nonobviousness
- Secondary indicia of nonobviousness
- Objective considerations of nonobviousness
- Secondary considerations of nonobviousness

Objective indicia of nonobviousness

- Commercial success of the invention
- Long-felt (but unmet) need for the invention
- Failure of others to develop the invention
- Professional approval or skepticism of the invention
- Simultaneous (or near-simultaneous) invention by multiple inventors
- Unexpected results
- Prior art “teaching away” from the invention

Objective indicia of nonobviousness

- What do these add over ordinary considerations of nonobviousness?

Objective indicia of nonobviousness

- What do these add over ordinary considerations of nonobviousness?
 - Less susceptible to hindsight bias
 - More objective

Arkie Lures

→ Tech

- Plastic fishing lure with embedded salty compound
- Turns out, fish like salt, and so are less likely to let go of a lure

Arkie Lures

→ Secondary considerations

- No one in the industry thought it would work
- Salt causes problems when embedded in plastic
- Ruins surface texture
- Causes explosions (!!)

Arkie Lures

- So do we want to give Mr. Larew a patent?
 - Does he satisfy the patent bargain?

Objective indicia of nonobviousness

- Exogenous regulatory change
 - *Richardson-Vicks Inc. v. Upjohn Co.*: There was a long-felt need for a combination ibuprofen/pseudoephedrine cold medicine
 - Court: The long-felt need was irrelevant because the odds of getting regulatory approval were low until the FDA announced a change

Objective indicia of nonobviousness

- Exogenous regulatory change
 - *WMS Gaming Inc. v. Int'l Game Tech.*: New slot machine was nonobvious because it was illegal until it came out
 - Court: no, it was illegal until it was invented, like all slot machines

Analogous art

(Post-AIA) 35 U.S.C. § 103 — Conditions for patentability; non-obvious subject matter

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention **to a person having ordinary skill in the art to which the claimed invention pertains**. Patentability shall not be negated by the manner in which the invention was made.

Analogous art

- **Novelty: all prior art is relevant**
- **Obviousness: prior art is relevant only if it's from the same field, or is related**
 - **AND is § 102 prior art**

Analogous art

- Two kinds of relevant prior art
 - Prior art that's from the same field of endeavor, regardless of the problem it exists to solve
 - Prior art that is reasonably pertinent to the specific problem the inventor is trying to solve, regardless of the field of endeavor
- The problem: how broadly to define the “problem” the inventor is trying to solve

In re Clay

- Patent: method of filling empty space in an oil tank with a gel



In re Clay

- Prior art: method of filling underground cavities in oil-producing areas with a gel

In re Clay

- Prior art: method of filling underground cavities in oil-producing areas with a gel
- Court: it is not analogous prior art
 - Solves a different problem
 - Streamlining underground formations to cause oil to flow more easily
 - Not filling empty space in storage

Claim-chart exercise

Claim-chart exercise



Claim-chart exercise

	Teleflex Claim 4 (Engelgau)	Rejected Teleflex claim	Redding patent	Asano patent	Smith patent	'068 patent (Chevrolet)	Rixon patent
Adjustable petal assembly	✓	✓	✓	✓			✓
Fixed pivot point	✓			✓			
Electronic sensor	✓	✓			✓	✓	✓
Sensor on pivot point	✓				✓	✓	

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Fixed pivot point	✓			✓			
Electronic sensor	✓	✓			✓	✓	✓
Sensor on pivot point	✓				✓	✓	

Next time

Next time

→ Utility