

ANTWERP, BELGIUM
February, 2003



How to Steal
\$1000,000,000 in Diamonds:
A Case Study



Case Analysis

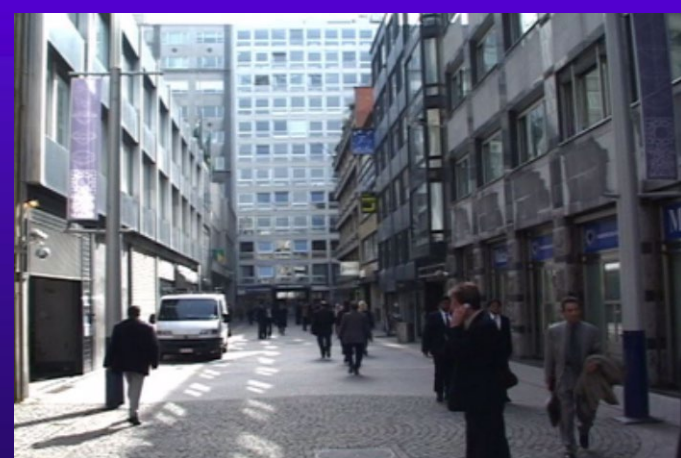
- ◆ The Crime
- ◆ The Criminals
- ◆ The Investigation and Physical Evidence



Real World of Crime

- ◆ Largest theft in Antwerp
- ◆ Two years in the planning
- ◆ Perfectly executed
- ◆ Seven career criminals from Italy
- ◆ Diamonds not recovered

Antwerp, Belgium

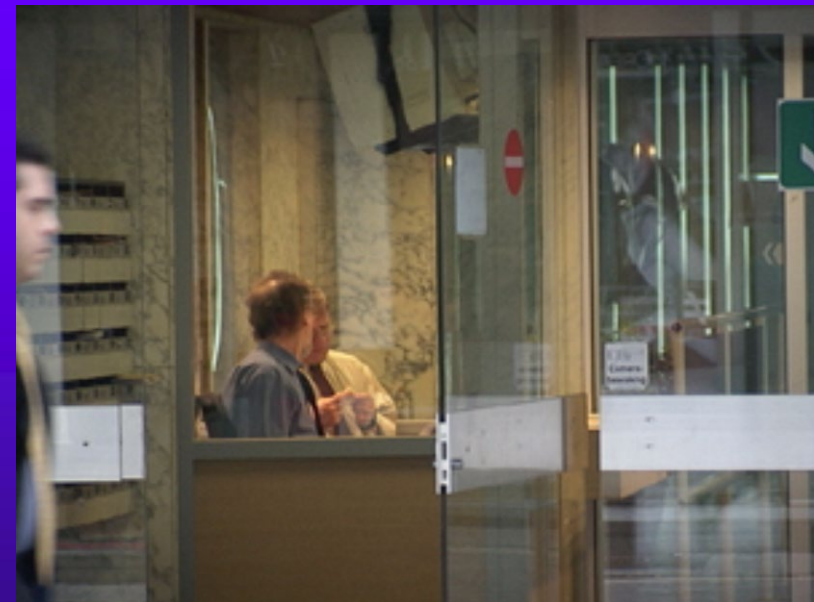




Diamond Capitol of the World

- ◆ Six square blocks
- ◆ Billions of dollars of diamonds
- ◆ Extremely secure
- ◆ 85% of world's rough cut diamonds
- ◆ 24 hour security by local police
- ◆ Limited access

Diamond Center Building





The Diamond Center

- ◆ One of many buildings
- ◆ Fifteen stories: 13 above ground
- ◆ 225 Diamond merchants in building
- ◆ Vault in basement: high security
- ◆ Accessible by stairs or elevator
- ◆ Never a problem in thirty years
- ◆ Each customer had safe deposit box
- ◆ Diamond center security



The Diamond Center

- ◆ Access by street or parking garage
- ◆ Parking garage outside of perimeter
- ◆ Security check point into building
- ◆ Parking area access
- ◆ Electronic access control

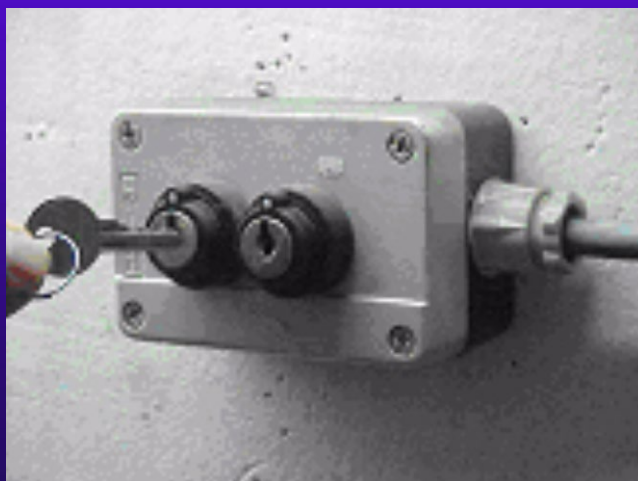
Diamond Exchange Perimeter



Parking garage



Entry from Parking Garage



Entry to Diamond Center



Lips High Security Vault





Diamond Center Security

- ◆ Lips Safe
- ◆ Dual locking system
- ◆ Dimple locks
- ◆ Alarms
- ◆ Video surveillance
- ◆ Guards
- ◆ Limited access



Electronic Monitoring: Alarms

- ◆ Video surveillance recorders inside and outside of vault
- ◆ Shock and vibration sensors
- ◆ Dual technology IR/MCW in vault
- ◆ Light level monitoring in vault
- ◆ Audio sensor outside of vault
- ◆ Balanced magnetic switch



Access to the Lips Vault

- ◆ Dual locking: key + 4 wheel combination
- ◆ Anti-manipulation lock
- ◆ Alarm systems
- ◆ Video monitoring and electric gate to enter

Vibration Detector on Vault



4 Wheel Combination Lock





Safe Deposit Boxes

- ◆ Each has three wheel combination lock
- ◆ Design: brass bolt
- ◆ How to compromise

Safe Deposit Boxes





Overview of the Crime

- ◆ Valentine's day weekend
- ◆ Seven career criminals
- ◆ Six hours in vault
- ◆ 109 safe deposit boxes opened
- ◆ At least \$100,000,000 stolen
- ◆ No money recovered
- ◆ Maximum penalty: five years



Planning the Crime

- ◆ What must be done?
- ◆ What do we have to know?
- ◆ How do we do this?
- ◆ What would make the crime successful?
- ◆ How do they gain access to the vault?
- ◆ What information would be vital?



The Physical Facility

- ◆ Limited physical access: card system
- ◆ Vault in basement of building

Reconnaissance of Building





Execution of the Crime

- ◆ Saturday night
- ◆ Six hours
- ◆ Four men in the vault
- ◆ Open 109 boxes
- ◆ Take loot to apartment
- ◆ Leave Belgium Sunday morning
- ◆ Bury garbage in Machelen
- ◆ Ring leader returns one week later
- ◆ Search warrant on apartment



Required Steps to the Theft

- ◆ Building access
- ◆ Bypass of locks
- ◆ Bypass of alarm systems
- ◆ Access to the vault
- ◆ Entry into safe deposit boxes
- ◆ Exit the secure area of the Exchange



How do we get into the Vault?

- ◆ High security combination lock
- ◆ High security lever lock
- ◆ High security door locks
- ◆ Methods to get into the vault?
 - Most likely
 - Least likely



Opening Safe Deposit Boxes

- ◆ Construction
- ◆ Cannot easily manipulate
- ◆ Three wheel lock
- ◆ Physical bypass



Bypass of Door Locks

- ◆ Lips dimple locks
- ◆ High security?
- ◆ Multiple tumbler
- ◆ Positional master key system, more secure than conventional system



Video Surveillance System

- ◆ Cameras everywhere outside and inside of vault
- ◆ Control room on ground floor
- ◆ Questions:
 - Storage of video tape
 - Access to control room

Diamond Center: 2/16/2003





Physical Evidence?

- ◆ What clues would be expected?



Evidence of the Crime

- ◆ Fingerprints
- ◆ Glove marks
- ◆ DNA
- ◆ Shoe prints
- ◆ Food
- ◆ Gloves
- ◆ Tools and parts
- ◆ Tool marks
- ◆ Telephone records



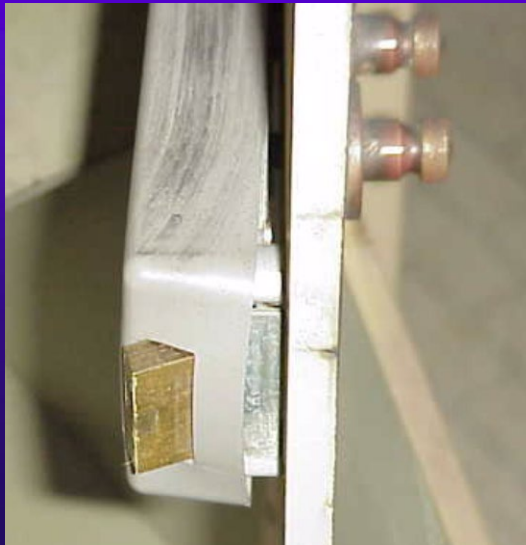
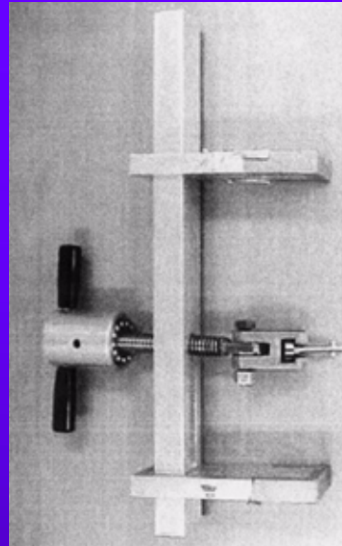
How They Did It

- ◆ Bypass alarm systems
- ◆ Inside the vault
- ◆ Video
- ◆ Locks
- ◆ Access to safe

Key to the Vault



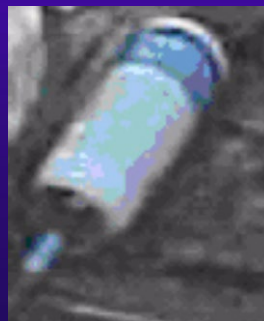
Safe Deposit Lock Puller



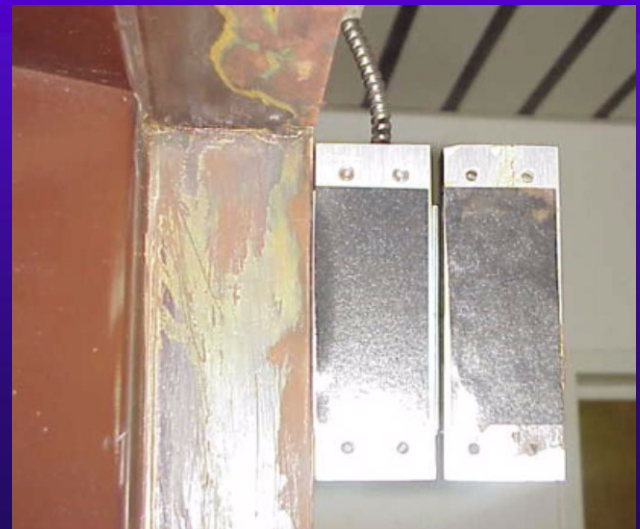
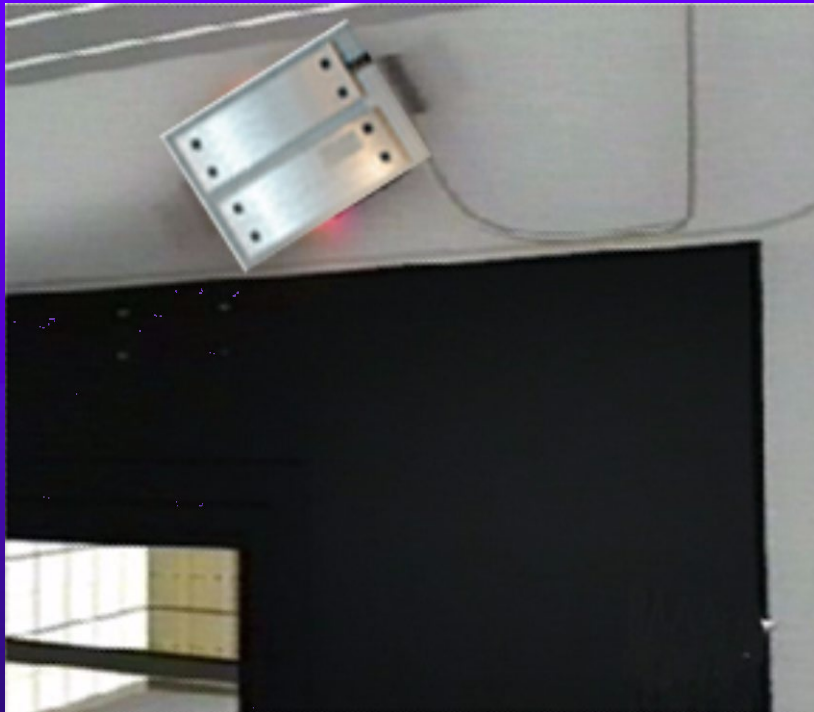
Wiring in Vault Ceiling



IR/Microwave Detector in Vault



Balanced Magnetic Trip



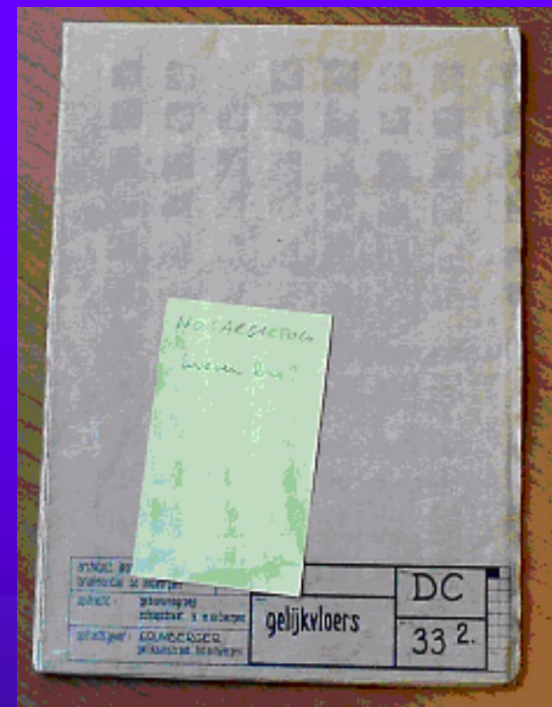
Light Sensor in Vault



Lips Dimple Lock and Rake Tool



Control Room and Video Tape



Machelen



Machelen, Belgium





Forensic Questions

- ◆ How difficult is the vault to open?
- ◆ Can the locks be manipulated?
- ◆ Inside information?



EVIDENCE LINKS

VAULT	MACHELEN	APARTMENT
	Gloves	
Sports bag		
Alligator clips for holding electrical wires, found in sport bag in vault.	Alligator clips for holding electrical wires, found in garbage bags.	
Similar emeralds to those found in apartment and at Machelen.		Vacuum bag, with diamonds and green emeralds.
	Food items matching those in apartment.	Salami, wine, yogurt, cheese.
Isomo (Styrofoam) sheets to defeat the microwave sensor.		



Evidence Links

VAULT	MACHELEN	APARTMENT
Grey rubbish bag on cameras inside of vault and exterior to vault door.		
Shoe prints		
Fingerprints and glove marks		
DNA trace		
Tool marks		

Black tape on light sensor and covered with trash bag.



Greasy material on PIR alarm sensor, identified as silicone.



BALANCED TRIPS ON SAFE

- ◆ Balanced magnetic trip and magnet pair, mounted on vault door.
- ◆ Balanced magnetic trip, which was removed from vault door, then held together as a pair with double-sided tape, and repositioned.
- ◆ Similar magnets at Machelen



Debris at Machelen

- ◆ Debris, wrappers, papers, empty and torn envelopes that were left at scene.
- ◆ Several documents and folded notes, banknotes, related to the Diamond Center.



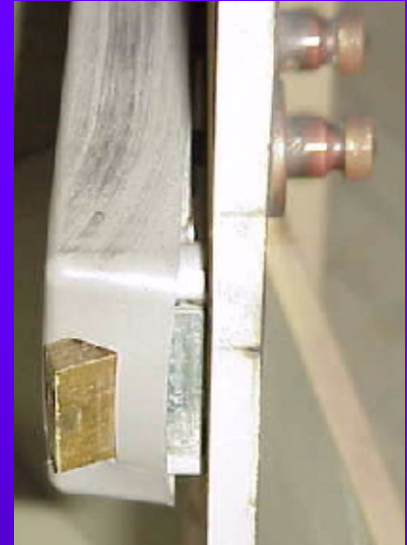
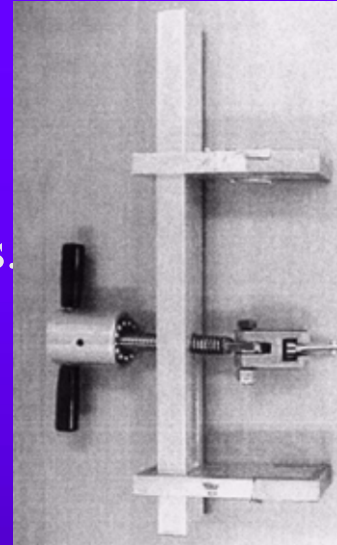
Video surveillance tapes

- ◆ Sony videotape used for surveillance of building. Missing cassettes from 2/10/2003 and 2/15/2003.
- ◆ Sony videotape used for surveillance of building. Missing cassettes from 2/10/2003 and 2/15/2003.



Dent Puller for Safe Deposit Box

- ◆ Model of dent puller, used to open safe deposit boxes.
- ◆ Forced open safe deposit boxes.
- ◆ Components of a dent puller that can open safe deposit boxes.
- ◆ Components of dent puller



Garbage Sack and tape

- ◆ Roll of grey tape, grey rubbish bag with grey tape, ventilation grilled access, door to storeroom sealed with grey tape.
- ◆ Nearly empty roll of grey tape



Lips pick tool and keys

- ◆ Lips dimple locks in building.
- ◆ Picking tool for Lips lock
- ◆ Lips keys



Steel keys for use in the dent puller.



Lever Lock on Lips Safe

- ◆ Locked key cabinet in room adjacent to vault.
- ◆ Lever lock on vault door (in middle of the door).
- ◆ Bitting portion of lever key.





Mistakes that were Made

- ◆ Security hardware: locks and keys
- ◆ Alarm systems
- ◆ Two critical mistakes by thieves:
 - Garbage left in Machelen
 - Ring leader returns to apartment



How to Steal \$100,000,000

- ◆ © 2004 LSS+ Version 5.0 Multimedia Edition, Section 40_5.0.
- ◆ www.security.org